PHP61

THE FINANCIAL IMPACTS OF PHARMACIST INTERVENTION IN INPATIENT DEPARTMENT OF A LOCAL HOSPITAL IN TAIWAN

Hsiao CL, Lin YM, Chang YT, Chen CC, Tsai CS, Liu HP
Taipei Medical University-Shuang Ho Hospital, New Taipei City, Taiwan, Taiwan

OBJECTIVES: The aims of this study are to evaluate significance of pharmacist interventions, probability value of adverse drug events (ADE) if no pharmacist recommendations, and to analyze economic impact of pharmacist recommendations. **METHODS:** Data of this retrospective study were collected between December 2010 and May 2011. The pharmacist recommendations documented in the electronic system were included in this study, while the recommendations which were incomplete, were duplications, or did not require the pharmacist to use clinical judgment were excluded. Data analysis included probability value of ADE if no pharmacist recommendations (0 to 1.0, 0 defined as completely unlikely, 0.5 as neither likely nor unlikely, 1.0 defined as very likely), severity of potential ADE (potentially lethal, serious, significant, minor, or no error), and significance of the intervention (extremely significant, very significant, significant, somewhat significant, nonsignificant, adverse significance) were determined by two evaluators (one physician and one is senior pharmacist). The cost analysis mainly looked at cost avoidance. **RESULTS:** Seven hundreds and seventy-six pharmacist interventions were documented in the electronic system from December 2010 to May 2011. 285 recommendations were excluded since there was no specific intervention, the recommendations were not accepted or categorized as duplication. Finally, 491 interventions were included in this study. The average probability value of ADE was 0.41. The assumption that cost of *prolonged length of hospital stay due to ADE* is about NT 5,000. Therefore, cost avoidance was NT 1,006,550 in this study. On the other hand, most pharmacist interventions as percentage of 65.4% were classified as "very significant" by the two evaluators. **CONCLUSIONS:** The study illustrated that the pharmacists' interventions were able to prevent potential adverse drug events and to decrease medical expenditure thereafter. In conclusion, patient-centered pharmaceutical intervention should be provided continuously to improve quality of medical care.

PHP62

PRESCRIBING EVALUATION PROGRAM IN SOUTH KOREA

Lee BR[1], Lee SM[2], Kim SK[1]
[1]*Health Insurance Review & Assessment Service, Seoul, South Korea,* [2]*Chung-Ang University, Seoul, South Korea*

OBJECTIVES: In Korea, prescribing evaluation program is being conducted for some drugs having a high risk of misuse or abuse like antibiotics, injections and expensive drugs. The goal of this policy is to guarantee the adequacy of drug prescription based on medical, pharmaceutical, and cost-effective assessment. This could identify the overall trends of drug prescription for each medical institute as well as comparison among medical institutes. **METHODS:** It was conducted using prescribing evaluation index developed by HIRA (Health Insurance Review and Assessment Service) using national health insurance claims data. The indexes account for prescribing patterns such as antibiotics prescription rate, injections prescription rate, drug cost per prescription day, the number of drugs per prescription, adrenocortical hormone prescription rate, duplicated prescription rate of NSAIDs (Non-Steroidal Anti-Inflammatory Drugs), and indicators for promoting generic prescription. **RESULTS:** According to the results of fourth quarter of 2010, antibiotics prescription rate, injections prescription rate and the number of drugs per prescription were higher in primary care clinics than general hospitals. In case of drug cost per prescription day, costs were lowest in primary care clinics and were highest in tertiary hospitals. In case of prescription rate of high price drug, rates also were highest in tertiary hospitals and the degree of reduction was highest in primary care clinics. **CONCLUSIONS:** Since this prescribing evaluation program conducted, antibiotics prescription rate with acute upper respiratory infections was dropped by 10%p. By making public the results, it also could induce each medical institute to improve prescribing patterns by themselves. To take a more effective policy, financial incentives for medical institutes and/or education for prescriber are needed in addition to feedback of the results.

PHP63

ECONOMIC, CLINICAL AND HUMANISTIC OUTCOMES OF A COLLABORATIVE PHARMACIST- PHYSICIAN MEDICATION THERAPY MANAGEMENT SERVICE FOR POLYPHARMACY ELDERLY

Lin HW[1], Lin CH[2], Chang CK[2], Yu IW[2], Lin CC[1], Li TC[1], Li CI[2], Hung JS[2]
[1]*China Medical University, Taichung, Taiwan,* [2]*China Medical University Hospital, Taichung, Taiwan*

OBJECTIVES: The elderly are vulnerable to adverse drug outcomes due to aging, multiple chronic illnesses and inappropriate use of polypharmacy. The aim of this research was to evaluate the outcomes of a collaborative service performing pharmacist-physician medication therapy management (PP-MTM) model for polypharmacy elderly in Taiwan. **METHODS:** A randomized, controlled intervention study was designed and implemented in China Medical University Hospital (CMUH), a 2000-bed academic medical center, in Taiwan. We recruited those loyal, polypharmacy elderly patients, who regularly visited more than one medical specialty and possess more than three chronic diseases in the outpatient departments. While patients in the intervention group received continuous, pharmacist-initiative medication therapy management of PP-MTM model for one year, patients in the control group received usual care and follow-up assessment (UC group). The collaborative care in PP-MTM group was provided through reviewing medication-related problems continuously by clinical pharmacist and discussing further with the clinical physician team. The following outcomes were assessed: 1) economic: medical expenditure in CMUH; 2) clinical: lipid, kidney profiles, depression scores; and 3) humanistic: Bathal index, scores of instrumental activities of daily living and EQ-5D scores. The changes of outcomes from baseline to the end of implantation among two groups were compared using inferential analyses. **RESULTS:** Of 1200 potential patients, 178 elderly patients were involved. Although PP-MTM group had higher proportion of diabetics than UC group (46% vs. 25%), the other demographics and outcomes were comparable at baseline. Over one-year implementation, the PP-MTM group spent $86,480 USD less than UC group. While the changes of clinical and humanistic outcomes in the PP-MTM group were preferable on the extent, there were no statistically significant differences among two groups. **CONCLUSIONS:** The implementation of the collaborative PP-MTM model in the outpatient departments was economically beneficial to the polypharmacy loyal elderly patients.

PHP64

THE INCIDENCE OF POTENTIAL DRUG-DRUG INTERACTIONS ORIGINATING FROM THE SAME PRESCRIBER

Malone DC, Hines LE, Brown S, Warholak TL
University of Arizona, Tucson, AZ, USA

OBJECTIVES: To determine the frequency of co-prescribing interacting medications from the same prescriber. **METHODS:** Data for this study came from submitted pharmacy claims from the Arizona Medicaid program over a 1 year period. A total of 15 well established drug interactions were used to identify instances where a beneficiary received both an object (drug that is affected) and precipitant (drug that causes the interaction) medications with overlapping therapy. The combinations included: amiodarone/quinolones; carbamazepine/macrolides; digoxin/amiodrone; digoxin/azole antifungals; digoxin/macrolides; simvastatin/amiodarone; lovastatin or simvastatin/azole antifungals; tamoxifen/SSRIs; warfarin/amiodarone; warfarin/azole antifungals; warfarin/fibrates; warfarin/NSAIDs; warfarin/statins; warfarin/macrolides; warfarin/thyroid preparations. While all these combinations are not absolutely contraindicated, viable alternatives exist and/or additional management is required. Prescribers were identified using Drug Enforcement Administration or national provider identifier numbers submitted with pharmacy claims. The analysis examined the extent that both object and precipitant medications were attributable to the same prescriber. **RESULTS:** A total of 1,723,924 prescription records were evaluated, representing 38,418 individuals. The total number of potential drug-drug interactions (PDDIs) was 25,553, ranging from 11 for digoxin/amiodarone to 6183 for warfarin/statins. There were 4215 unique prescribers in the database. A total of 3,219 individuals were exposed to at least one PDDI, with 62.7% being female. The mean (SD) age was 51.1 (12.0). The percentage of PDDIs from the same prescriber ranged from 15% for tamoxifen/SSRIs to 69% for digoxin/amiodarone. Overall, the same prescriber ordered both the object and precipitant medication for 50% of the PDDIs. PDDIs involving acute therapies (e.g., anti-infectives) were less likely to involve the same prescriber. The mean (SD) number of unique PDDIs per prescriber over the year period was 2.49 (2.26). **CONCLUSIONS:** This study suggests that many PDDIs are due to same prescriber ordering both medications. This is particularly concerning since many clinically important PDDIs could have been avoided.

PHP65

FACTORS INFLUENCING REIMBURSEMENT PRICE OF NEW DRUGS AFTER INTRODUCTION OF POSITIVE LIST SYSTEM

Park SE[1], Yim EY[1], Lim SH[1], Bae SY[1], Lee EK[1], Kim KH[1], You MY[2], Lee BI[1]
[1]*Health Insurance Review & Assessment Service, Seoul, Seoul, South Korea,* [2]*Health Insurance Review & Assessment Service, Seoul, South Korea*

OBJECTIVES: Assessment on the appropriateness for reimbursement of new drugs by the Health Insurance Review and Assessment services (HIRA) and negotiation between the National Health Insurance Corporation (NHIC) and pharmaceutical companies are conducted for determining the price of them after adapting positive list system in Korea. In this study, we evaluated the relationship between the results of the negotiation and the characteristics of the drugs as well as reimbursement decisions in order to identify factors affecting the price. **METHODS:** The price cut rate between the company suggesting price accepted by the HIRA and the negotiated price with the NHIC was calculated by the characteristics of drugs which had completed the negotiation from 2007 to 2011. Mann-Whitney test were used to identify any significant differences in the rate with regard to the drugs and regression analysis was carried out to explore which variables are likely to influence the rate. **RESULTS:** The negotiation of 145 ingredients of new drugs were completed for 5 years and 109 of them were successfully reached on the agreement(75.2%). There were no differences in negotiation rate by the characteristics of the drugs. The average price cut rate of negotiated drugs was 19% (n=109, range 0 - 77%). The conditionally accepted drugs (n=19) with the price recommended by the HIRA had significantly higher rate than the others(33% vs 16%, $p<0.0001$). In addition, that of 71 which failed to demonstrate clinically meaningful improvement was higher than the others, but showed no significance (21% vs. 15%). 'Rule of rescue' or anticancer drugs showed no significant impact on the rate. The annual net budget cost and acceptance of the HIRA recommending price, however, significantly affected the rate($p<0.05$). **CONCLUSIONS:** This study might be helpful for identifying the factors that affect the reimbursement price of the new drugs and enhancing the predictability for the price.

PHP66

ASSESSING AGREEMENT BETWEEN PATIENT ACCESS SCHEMES: REVIEW OF NICE AND SMC GUIDANCE

Timm B, Leonard SA, Haynes S
Costello Medical Consulting Ltd., Cambridge, UK

OBJECTIVES: Risk-sharing schemes have become increasingly frequent in health technology assessment internationally. The degree of alignment between these