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**The Effect of the "National Health Insurance Family Doctors Integrated Care" Program on Patients' Health Care Utilization**

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**Objectives:** In 2003, Bureau of National Health Insurance (NHI) launched a "Family Doctors Integrated Care Plan" (FDICP) program to implement the health care referring system, promote health, and control the health care resources. The purpose of this study was to evaluate the effect of FDICP program on members' health care utilization.

**Methods:** We adopted the NHI claim data from 2004 to 2006. Patients who joined FDICP for consecutive three years were recruited as the intervention group and those who never joined as the comparison group. By adjusting the propensity score, we controlled the selection bias due to the demographic discrepancies. The effectiveness of the FDICP program was evaluated by comparing the utilization of prevention services, medical care services, and health care expenditures between these two groups. **Results:** Our results showed that the intervention group received significantly higher adult prevention services; however no significant difference was found on the children prevention services and Pap smear rates. In terms of outpatient utilization and expenditure, the intervention group was significantly higher than that of the comparison group. However, the results showed opposite direction in terms of hospitalization rates, length of stay, and admission expenditures. Finally, the FDICP program did not increase total health care expenditure.

**Conclusions and Suggestions:** The study shows that FDICP program is effective in promoting health care prevention and controlling hospitalization. We suggest that it is necessary to evaluate the long term effect on health care utilization and expenditure of the FDICP program.

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**The Research of Off-Labeled Drug Use and Medication Type for Child Antibiotics under National Health Insurance in Taiwan**

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**Background:** In Taiwan, antibiotics abuse has caused serious problems, such as drug resistance, and the child prescriptions have written out easily. Therefore, the study is focusing on medication type and off-labeled

drug use that child antibiotics in pediatric outpatient services, and discussing the effective factors.

**Method:** All of data was extracted of systematic sampling datasets and contracted pharmacies files from the database of National Health Research Institutes from 2002 to 2005. This object of study patients are under 12 years old. The medication types are including expenses, medication items, medication categories, and administration duration. In addition to the off-labeled drug use, there are the further analysis of duplicated medication and drug-drug interaction.

**Result:** The prescriptions are 66,446 with antibiotics. The average of medications is 5.06 items per prescription with 1.03 items for antibiotics. The average of antibiotics medication is 1.02 categories. By the way, the average charge of medications has been cost NT\$109.52 with NT\$41.38 for antibiotics. The average duration of administration is 3.25 days. Off-labeled drug use is 33.33%; within the single prescription the rate of drug-drug interaction is 0.5%, and the rate of duplicated medication is 1%. The medication type and inappropriate prescription are different with prescription types, patient characters, doctor characters, and hospital characters. **Conclusion:** The rate of child off-labeled drug use is too high in this research; therefore, the further study is necessary. And even though the rate of duplicated medication and drug-drug interaction are not high, but they are still risks of child medication security.

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**Effect of Drug-Ceiling Policy on Physician Behavior: Example of Diabetic Medication in Taiwan**

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**Objective:** The Bureau of National Health Insurance (BNHI) has shifted the responsibility of cost containment on drug expenditures from patient level to provider level by setting up a ceiling policy for medication. The aim of study is intended to examine impacts of medication ceiling policy on physician prescribing behaviors for diabetic medication and compare the trends of utilization for branded and generic drugs of Sulfonylureas.

**Methods:** Retrospective secondary analysis based on a random sample of the NHI claims data from 2000 to 2005. All the prescription orders of Sulfonylureas for inpatients and outpatients at different levels of providers were included. The utilization for medications before and after the implementation of policy was analyzed. **Results:** Before the policy intervention year of 2005, both branded and generic drugs increased from 2000 to 2004. However, the utilization of branded-drug decreased significantly in quantity (-9.72%) and in expenditures (-8.42%) after the policy. On the other hand, the results of trend test indicated that the use of generic drugs had a significantly increasing trend ( $P < 0.05$ ) at utilization and expenditure. The changing trends of