PODIUM SESSION II: HEALTH EXPENDITURE STUDIES

HE1

A CROSS-COUNTRY COMPARISON OF HEALTH PERFORMANCE BETWEEN TAX-FUNDED AND SOCIAL HEALTH INSURANCE SYSTEM: THE CHANNEL VIA PREVENTIVE CARE

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OBJECTIVES: Tax-funded system and the social health insurance (SHI) system are two main choices for health-care system reform. This research investigates the differences of health outcome and health expenditure between these two systems. The channels of such differences are also valuable for policymakers. We further explore the channel via public health and preventive care investment that leads to these differences.

We are also interested in the impact of fiscal and political decentralization on health systems. METHODS: We merge the data from a variety of sources including WHO, the World Bank, OECD together with database prepared by independent researchers like Polivy IV and Government Performance Indicator. After controlling the variables indicating the social-economic situations, we implement the Pooled-OLS Method and Fix Effect Method for panel data. Then check the model specification by testing the autocorrelation of the residuals. RESULTS: When the share of SHI in public health expenditure increases, the total health expenditure (THE) measured as its share in GDP increase dramatically. However, if there is local responsibility, the negative impact will be mitigated. What’s more, the increase of SHI share also plays down the life expectancy, but with local responsibility the negative impact can get ameliorated. It is found that a higher share of public health and preventive care investment leads to these differences. Conclusions: Tax-funded system is more efficient in the sense of cost-benefit, and public health and preventive care investment are important channels of these different performances between the two types of health-care system.

NEW DRUGS AND THE GROWTH OF HEALTH EXPENDITURE: EVIDENCE FROM DIABETIC PATIENTS IN TAIWAN

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OBJECTIVES: The aim of this paper is to investigate whether the adoption of pharmaceutical innovation increases the overall expenditure on health care by focusing on diabetic patients. METHODS: By examining the National Health Insurance sampling longitudinal claims data between 2000 and 2004, we use a new class of drugs, namely, thiazolidinediones (TZD), as an example to investigate the effect on health expenditure of prescribing new drugs to patients by decomposing the impact into treatment substitution and treatment expansion effects. The difference-in-difference approach was used to estimate the effects of adopting new drugs by comparing the difference between the users of TZD drugs (the treatment group) and the nonusers of TZD drugs (the control group) as well as the difference between the pre and post periods.

RESULTS: Our results indicate that the introduction of new drugs mainly impacts the outpatient drug expenditure and does not give rise to any offsetting effect on other outpatient and inpatient health expenditures. This suggests that the adoption of pharmaceutical innovation in treating diabetic patients is expenditure-increasing. In addition, we find evidence that the treatment substitution channel has a more significant impact on health expenditure than the treatment expansion channel. Conclusions: An important policy implication for our findings is that new prescription drugs can benefit patients by themselves, suggesting that the justification for increased health expenditure on the treatment of diabetes is not conditional upon a lowering in the demand for other types of health-care services. By contrast, it is conditional upon the increased health benefits per se.

HE3

ANALYSIS OF AN AFFORDABLE PRICE FOR PERFORMANCE-BASED RISK SHARING SCHEME: Omalizumab ADAPTATION IN KOREA

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OBJECTIVES: The innovative but expensive biologic agents are introduced in recent years. Korea government is meeting with difficulty in funding these agents due to limited health-care budget. Pay for performance as risk sharing scheme has been adopted to overcome this situation in other countries. In this article we tried to find an affordable price based upon a budget neutral concept and adapted to risk sharing of Omalizumab. METHODS: Omalizumab, for treatment of moderate to severe allergic asthma, is only treated for responders at 16 weeks. We modeled the performance-based risk sharing along four assumptions: 1) no additional national health-care budget; budget of risk sharing 5 budget of no risk sharing; 2) positive manufacturer’s profit; 3) reimbursed only for responders at 16 weeks; and 4) manufacturer funding to responder in screening period. We also simulated the model by changing of input parameters. RESULTS: We defined and analyzed the function of risk sharing scheme based on national health-care budget and manufacturer’s profit. Lower boundary of affordable price was derived from the minimum of acceptable risk sharing scheme based on national health-care budget and manufacturer’s profit. Lower boundary was highly depends on unit selling price, production cost.
Cancer patients with pain score $>3$ were recruited from three medical centers in Taiwan. Numeric Pain Rating Scale, Wong-Baker Face Pain Rating Scale and Brief Pain Inventory were used to evaluate the differences of pain control between two groups, addition of pain adjuvants and narcotics. The monthly consumption of narcotics, the frequency of breakthrough pain and adverse event were recorded for analysis by Paired t-test. RESULTS: A total of 120 patients were eligible in this study. Fifty-five (45.8%) and 65 (54.2%) patients received narcotic analgesics and pain adjuvants for pain control, respectively. The satisfaction of patients in both groups on pain control improved 2.03 ± 1.87 points in the narcotics group and 2.18 ± 1.72 points in non-comitant adjuvants group without significant difference. ($F_{1,119} = 0.1024$, $P = 0.7495$). The times of breakthrough pain was significantly decreased in adjuvants group as compared to narcotics group ($t_{1,119} = 2.23$ vs. $0.48 ± 1.80$; $F_{0.11} = 7.3556$, $P < 0.001$). CONCLUSIONS: No significant difference in total consumption of narcotics and pain control was found. The frequency of breakthrough pain is likely to be improved in the concomitant adjuvants as compared in the narcotics group. The study found the safety of adjuvant therapy do no harm to palliative patients.

**RANDOMIZED, PLACEBO, CONTROLLED, DOUBLE-BLIND TRIAL OF MELATONIN IN CHOLANGIOCARCINOMA PATIENTS**

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OBJECTIVES: Cholangiocarcinoma is a leading cause of cancer death in the North-east of Thailand. Currently, chemotherapy and supportive care are the main treatments in non-resectable cholangiocarcinoma patients. Many adverse events (AE) from disease and treatments have been reported that affect quality of life (QOL) of the patients. This study evaluated the efficacy of melatonin compared to placebo on the QOL by MDASI and survival time. METHODS: The study was a randomized, double-blind, placebo, controlled trial. The patients received treatment following the protocol of each hospital, and the study drug. Patients were randomized by mixed-block randomization stratched by hospital and type of treatment. The treatment group received melatonin (20 mg/day) and the control group received placebo. Patients started taking the study drug on the first day of the treatment and continued for 3 months. QOL was assessed using Thai Functional Assessment of Cancer Therapy-Hepatobiliary (FACT-Hep) and AE were assessed using Common Toxicity Criteria Adverse Events (CTCAE). RESULTS: 360 patients were recruited and excluded 15 patients in each group. Baseline characteristics of the two groups were not different. The melatonin group had a higher but not significant percentage of improvement in FACT-Hep scores than the control in both the first (20% vs. 6.7%) and second (20% vs. 6.7%) month. Median survival was longer in the melatonin group (160 vs. 130 days, $P = 0.05$). In addition, there were fewer reports of Grade 3-5 AE in the melatonin group than placebo in terms of anorexia (11% vs. 50%), fatigue (11% vs. 50%), nausea/vomiting (0% vs. 10%) and weight loss (0% vs. 20%). CONCLUSIONS: The combination of melatonin with standard treatment did not prolong overall survival. However, the melatonin treatment can decrease AE and maintain quality of life of non-resectable cholangiocarcinoma patients. Further studies with larger samples are needed.