PVC14

DOES BALANCE BILLING RAISE THE CONCERNS ON EQUITY OF HEALTH UNDER A NATIONAL HEALTH INSURANCE PROGRAM IN TAIWAN?
Cha W1, Yu CY2, Yang CH1, Huang CY1
1Taochi :2 Taichung
OBJECTIVES: Drug-eluting stents (DESs) have been considered to be generally superior to bare-metal stents (BMSs) for their lower rates of target- vessel revascularization. The National Health Insurance (NHI) started reimbursing BMSs in July 1999. But when it came to DESs, balancing-billing was employed to reimburse DESs under the pressure of NHI’s widening financial deficits. Patients who chose DESs would need to pay the differences between the price of DESs charged by providers and the fixed schedule of BMSs set by NHI. Whether distribution of DESs would concentrate in patients with higher socioeconomic status remained an unanswered research question. This study aimed to examine the influence of socioeconomic factors on the choice between DESs and BMSs in Taiwan. METHODS: Patients who admitted in the hospitals for coronary stenting during December 1, 2006 to December 31, 2007 in the Taiwan National Health Insurance (NHI) claims database were identified as the study cases. The Cox proportional hazard model was performed to evaluate the relationship between socioeconomic factors and the likelihood of choosing DESs, controlling for other confounding factors and providers’ characteristics. RESULTS: There were 3773 cases of DESs and 7413 BMSs in the observation period. Patients who were with higher wage income level and residing in the northern part of Taiwan were significantly more likely to choose DESs. Veterans and patients from low-income households were significantly less likely to choose DESs. CONCLUSIONS: Socioeconomic factors seemed to be strong predictors of choosing DESs. Future research on the implications of disparities in using DESs is warranted to evaluate the impact of the balance-bill on equity of health in Taiwan.

PVC15

POTENTIAL DRUG-DRUG INTERACTIONS RELATED TO ANGIOTENSIN CONVERTING ENZYME INHIBITORS AND ANGIOTENSIN RECEPTOR BLOCKERS IN TAIWAN
Chen WC1, Chen YC2
1Kashihong Medical University, Kashihong, Taiwan; 2University of Macau, Macau, Macau
OBJECTIVES: This study aims to evaluate potential drug-drug interactions (DDIs) related to angiotensin converting enzyme inhibitors (ACEIs) and angiotensin receptor blockers (ARBs) in Taiwan. METHODS: This cross-sectional study used a claim-based dataset published by the Taiwanese National Health Research Institute, constituting data of 1,000,000 beneficiaries randomly sampled in 2005 from the nationwide population and followed longitudinally from 1995 to 2008. Individual prescription data of hypertensive outpatients using ACEIs or ARBs were extracted from 2006 to 2008. Level 1 to Level 3 potential DDIs were identified as the presence of interacting drug pairs defined by the “Drug Facts and Comparisons.” Demographic of patients having potential DDIs, prescription details and prescription overlapping days (POD) were collected and presented in descriptive statistics. Frequency of potential DDIs was calculated and presented in descriptive statistics. Frequency of potential DDIs was stratified by three age bands and four POD ranges and evaluated by Wald chi-square tests. RESULTS: Of all, 23,299 DDI prescriptions were assessed, including 22,967 (99.38%) and 332 (1.42%) for ACEIs and ARBs. For ACEIs, the most common drug for potential DDIs (Level 3 DDIs are amiloride (n = 624, 2.72%) and furosemide (n = 1313, 57.20%), respectively. For ARBs, the most frequently combined drug with Level-2 and Level-3 DDIs is lithium (n = 98, 29.52%) and indoindomethacin (n = 234, 70.48%). The majority of patients who had used DDI prescriptions aged over 45 years in the age bands of “45–64 years” and “over 65 years”, and the most frequent POD range for DDI prescriptions is during 16 to 30 days. CONCLUSIONS: Although there is only a small proportion of potential ACEIs/ARBs related DDI prescriptions in Taiwan, prescriptions are mostly prescribed for mid-age and elderly patients and frequently continued for 1 month. Further study will still need to explore the association between potential DDI prescriptions and adverse outcomes to justify the appropriateness of these prescriptions.

PVC16

PRESCRIPTION PATTERN OF DUAL ANTIPLATELET THERAPY AMONG TAIWANESE OLDER ADULTS
Yu IW1, Lin HW2
1China Medical University Hospital, Taichung, Taiwan; 2China Medical University, Taichung, Taiwan
OBJECTIVES: Upon the coverage restriction proposed by Taiwan National Health Insurance (NHI), the dual antiplatelet therapy (DAT) with clopidogrel and aspirin could be reimbursed up to 9 months for some specific indications since 2004. The longer duration of DAT was allowed for the cases with drug eluting stent (DES) since late 2006. This evidence showed its risks outweighed the benefits comparing to using aspirin alone, it is a lack of study examining the population use of DAT in Taiwan. A secondary data analysis was performed to examine the use patterns of DAT, specifically among the older adults in Taiwan. METHODS: A population-based longitudinal assessment was conducted using the 2003-2007 NHI databases. Those beneficiaries in 60 years old of age and greater during the study period were evaluated. All relevant data, including visits toward physician clinics, outpatient departments, use of medica- tions, and pertinent covered cost in the datasets of ambulatory care were retrieved and analyzed. Descriptive analysis was performed to describe the utilization and duration of DAT. RESULTS: Of 1 million beneficiaries being evaluated, 1511 older patients (age = 70.8 ± 8.0-year-olds) were prescribed DAT. A sharply increasing prescription of DAT occurred in 2007. 85.6% were prescribed with approval indications (i.e., ischemic heart diseases) for aspirin or clopidogrel alone. Thirty-one percent possessed with at least one antithrombotic risk factors (DM, dyslipidemia), which might attribute to DAT. The duration of DAT was up to 13 months. About 10% had DAT for more than 9 months. CONCLUSIONS: A sharply increasing utilization of DAT among Taiwanese older adults occurred in 2007. The change of reimbursement for DES in Taiwan may be the major contributing factor. However, further studies are needed to explore other contributing factors of DAT and its effectiveness and safety outcomes.

PVC17

POTENTIAL FOR PATIENT CONFUSION FROM BRAND SUBSTITUTION OF STATINS IN AUSTRALIA
Orta M1, Calino G1
1University of NSW, Darlinghurst, NSW, Australia; 2Hi Connections, Canberra, ACT, Australia
OBJECTIVES: To study the extent of brand substitution and brand switching between statins available on the Australian Pharmaceutical Benefit Scheme (PBS). METHODS: PBS prescription claims provided by Medicare Australia of a 10% random sample of all Australian long-term concession card holders were assessed over the period August 2007 through July 2008. Patients had to fill at least four prescriptions for a statin with generics (simvastatin five strengths with up to 17 brands), or pravastatin [four strengths with up to 12 brands] over the 1-year period. The proportion of non-switchers (single brand only) and multiple switches (two or more switches between brands) were determined for each of these statins. RESULTS: A total of 39,913 patients filled at least four prescriptions for a statin in the time window. The majority of Consequential patients received a single brand over the period (simvastatin at 60.8% and pravastatin at 56.1%). A smaller proportion received three or more brands: 14.4% for simvastatin and 13% for pravastatin. The proportion of statin scripts for the originator brand ranged from 22% for Zocor [simvastatin] to 50% for Pravastatin (pravastatin). A substantial proportion of statin patients were multiple switchers: 23% for simvastatin and 25% for pravastatin. Neither the number of brands received nor the number of switches seemed to be affected by the number of brands available on the PBS. Multiple switching was more common in those of under 50 years (33%) compared with those aged 70–79 years (23%). CONCLUSIONS: There is potential for patient confusion since there are multiple switches of both statins occurring in one quarter of these Australian statin patients. There was also a 43% increase in multiple switching by younger patients.

PVC18

UTILIZATION, PRICE, AND EXPENDITURE TRENDS FOR ANGIOTENSIN RECEPTOR BLOCKERS IN THE MEDICARE PROGRAM
Bui B, Guo J, Kelton C,Wigle P
University of Cincinnati College of Pharmacy, Cincinnati, OH, USA
OBJECTIVES: Angiotensin receptor blockers (ARBs) have been widely prescribed for multiple indications, ranging from heart failure to the prevention of kidney disease in patients with diabetes mellitus. The purpose of this study was to analyze the utilization, price and expenditure trends of ARBs. METHODS: A retrospective, descriptive time-series analysis was performed using the National Pharmaceutical claims database from 1991 to 2008. The quarterly prescription numbers and reimbursement amounts were calculated over time by summarizing data for individual drug products. The quarterly per- prescription reimbursement as a proxy for drug price was computed for the price of ARBs. RESULTS: ARB prescriptions increased from 0.03 million in 1995 to 7.8 million in 2005, representing a 259-fold increase. For individual drugs, the top selling drugs were Diovan® and Cozaar®, with 86,849 prescriptions and 340,101 prescriptions, respectively. In 2006, ARB prescriptions dropped due to the implementation of Medicare Part D. Just 2 years later, only 2.1 million were prescribed. Expenditure for ARBs increased from $1.3 million in 1995 to $315 million in 2003, and dropped to $174 million in 2008. Medicare expenditure for ARBs reached the summit in 2005 quarter 4, which was almost $60 million. But after Medicare Part D was implemented, payment dropped until 2007 quarter 3 and started to increase to $23.6 million by the end of study period at 2008 quarter 4. The average payment per ARB prescription also increased from 36.22 in 1995 to 81.84 in 2008. CONCLUSIONS: Dramatically increased utilization of ARBs was observed from this study due to their wide therapeutic indications and efficacy. A significant drop in utilization occurred from 2006–2008 and was related to the introduction of Medicare Part D. Regardless of the entry of new drugs in the same pharmacologic category, the payment per prescription continued to rise during the study period.

PVC19

DOSE STATIN USE IN PATIENTS WITH DIABETES SAVE OVERSTOCK RESERVE RESOURCE UTILIZATION? A DIFFERENCE-IN-DIFFERENCES ANALYSIS
Seetach S1, Zhang J2
1Virginia Commonwealth University, Richmond, VA, USA
OBJECTIVES: Diabetes affects 7.8% of the US population and is one of the most expensive medical conditions. The economic impact of statins, one of most effective cholesterol-lowering agents used today, is unclear. We sought to assess the impact of statin use on resource utilization among diabetes patients in the United States using a difference-in-differences analysis. METHODS: We identified and linked 885

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