US are being recruited by their physicians. Information from medical records is complemented with a set of validated Patient-Reported Outcomes Measures (PROMs). Responses to EQ-5D 5L were compared with the respective population norms (RPNs) to identify the associated burden of disease and analyzed considering key socio-demographic and clinical variables by means of bivariate tests and multivariate models.

Results: The PGRx-3 ACS sample included 1048 ACS cases, of which 678 patients (69.8% males, mean age-SD-=66.16-11.26-, 50.6% with non-ST elevated myocardial infarction) fulfilled the EQ-5D 5L. No differences in relevant socio-demographic variables were found between responders and non-responders ($p>0.05$). Mean utility scores found across all countries were lower than those published in their RPNs (i.e. range of differences-total populations-: 0.074 - 0.206). Moderate to extreme symptoms of anxiety/depression were reported in 17.8% of incident and 19.8% of recurrent ACS patients ($p=0.606$). Adjusted EQ-5D index scores and VAS values were higher in incident subjects ($p< 0.05$).

Conclusions: An important humanistic burden of disease with a substantial presence of psychological symptoms has been evidenced by means of the inclusion of a validated PROM in the PGRx-3 system.

990. Switching of Angiotensin Receptor Blockers to Angiotensin-Converting Enzyme Inhibitors in Patients with Hypertension: Is It a Cost-Saving Strategy?

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Background: Switching Angiotensin Receptor Blockers (ARBs) to Angiotensin-Converting Enzyme Inhibitors (ACEIs) is a common strategy to improve ACEIs/ARBs prescribing efficiency but its clinical and economic impacts are unclear.

Objectives: To evaluate the impact of ARBs switching on the incidence of hypertension (HT) related cardiovascular complications and HT-related medical resource use.

Methods: This retrospective study used data from the UK Clinical Practice Research Datalink (CPRD) in linkage with Hospital Episode Statistics (HES) from April 2006 to March 2012. Hypertensive patients who stopped ARBs and switched to ACEIs within 30 days were followed from the first prescribing date of ARBs to switching date (pre-switching period) and then to either the end of the study period, patients left the dataset or died (post-switching period). Incidences of individual and composite HT related complications (stroke, myocardial infarction, angina, heart failure, and chronic renal failure) and costs of HT related resource use (GP visits, antihypertensive drugs, hospitalisations and outpatient attendance) between pre- and post-switching periods were compared using multilevel, mixed-effect regression. Unit costs based on 2012 National Health Service reference cost and British National Formulary were used to calculate costs.

Results: Of the 470 included patients, 19 and 21 patients in the pre- and post- switching period developed at least one HT-related complication. Compared with the pre-switching period, there was no significant difference in the incidence of individual complications or composite outcome (OR: 0.9, 95%CI: 0.4, 2.0). Switching of ARBs was associated with a reduction in the total medical cost of £329 (95%CI: -534, -205), antihypertensive drugs costs of £177 (95%CI: -246, -148) and hospitalisation costs of £105 (95%CI: -251, -31).

Conclusions: Switching of ARBs to ACEIs was found to be a cost-saving strategy as it was associated with an overall cost saving without an increase in the incidence of HT-related complications. Further study is needed to compare the cost-effectiveness between switching and non-switching patients.

991. Characteristics of Different Antihypertensive Medication Users in Observational Comparative Effectiveness Studies: A Literature Review

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Background: While randomized trials are primarily designed to provide evidence on efficacy of new drugs, observational comparative effectiveness research using electronic health record data provides evidence on effectiveness and safety of drugs in routine medical practice. Early evaluation of effects of emerging therapies is challenging mainly due to confounding (channeling bias).

Objectives: To explore trends in differences in confounder distributions between users of antihypertensives over time since launch.

Methods: A PUBMED search was conducted, followed by a focused literature review on observational comparative effectiveness studies of antihypertensives (angiotensin converting enzyme inhibitors, ACEIs), calcium channel blockers (CCBs) vs. diuretics (D) and beta blockers (BB)) since the launch of ACEIs/CCBs. For each study, information was extracted on baseline characteristics, duration of follow-up, exposure, and outcome. Differences in patient characteristics between ACEIs versus D, ACEIs vs. BB, CCB vs. D, and CCB vs. BB were assessed over calendar years.

Results: Forty observational studies on comparative effectiveness and safety of antihypertensive medications published between 1996 - 2013 were included for the analysis. Major patient characteristics often reported in the studies were age, gender, body mass index (BMI), baseline systolic and diastolic pressures, smoking, diabetes, dyslipidaemia, stroke, ischaemic heart disease, and heart rate. The mean differences in baseline systolic and diastolic blood pressure and smoking status between users of ACEI and D, ACEIs and BB, CCB and D as well as CCB and D decreased over calendar time. No pattern was observed for age, gender, diabetes, and BMI.

Conclusions: Groups of antihypertensive medications users become more similar in some patient characteristics at later times after launch. However, this was not observed for all characteristics and no time window could be identified that is optimal for observational comparative effectiveness research.

992. Withdrawn by Author

993. Cholinesterase inhibitors and Risk of Adverse Cardiac Events: Synergic Effects of Cardiosuppressive Drugs in Dementia Patients

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Background: Cholinesterase inhibitors (ChEIs) may cause adverse cardiac events such as atrioventricular block from increased parasympathetic activity. The potential risk can be much higher in older patients already on cardio-suppressive drugs (CSs).

Objectives: To assess the risk of adverse cardiac events in dementia patients on ChEIs who are concurrently on medications that suppress heart rate or cardiac function.

Methods: We conducted a cohort study of initiators of ChEIs or memantine (reference) using 5% Medicare data. The concurrent use of CSs including alpha or beta blockers (BB), non-dihydropyridine calcium channel blockers, digitalis, antiarrhythmic drugs, and cholinomimetic drugs (CMs), e.g. bethanechol was examined. The outcome was adverse cardiac events identified by inpatient or emergency department ICD-9 codes for sino-/atrio-ventricular block, bradycardia, syncope and syncope-related consequences, e.g., hip fracture. We used Cox regression to estimate adjusted hazard ratios (HRs) for ChEIs, CSs, and synergistic effects between ChEIs and CSs. To quantify synergistic effects, we calculated attributable proportions due to interaction (API) and synergy index (SI).

Results: Among 62,283 new users (49,826 donepezil and 12,457 memantine) with mean age of 82, 73% female, and 81% White, higher outcome rates (per 1000 person-years) were observed in patients receiving donepezil (322) vs. memantine (292). The adjusted HRs were only slightly elevated for donepezil (HR 1.2; 95% confidence interval [CI] 0.9-1.3), BB (HR 1.2; 95%CI 1.0-1.5), or CMs (HR 1.2; 95%CI 0.8-1.6) by itself. However, we found significant positive synergistic effects for donepezil + BB (HR 1.5; 95% CI 1.3-1.7, API 13%, SI 1.6) and for donepezil + CMs (HR 1.7; 95%CI 1.0-1.9, API 16%, SI 1.6).

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