Abstracts

Effectiveness of Genotyping CYP2C19 to Guide Antiplatelet Therapy Selection

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OBJECTIVES: The recent re-label of clopidogrel to include information on CYP2C19 genotype and the approval of a second-generation antiplatelet medication, prasugrel, could greatly impact the way antiplatelet therapy is prescribed. This study assesses the genotype and the approval of a second-generation antiplatelet medication, prasugrel, OBJECTIVES:

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TREATMENT PATTERNS IN ATRIAL FIBRILLATION: AGENTS USED IN CURRENT PATIENT MANAGEMENT

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OBJECTIVES: Future refinement of pharmacotherapy of atrial fibrillation/atrial flutter (AF) requires a detailed understanding of how treatments are currently employed in clinical practice. METHODS: In this retrospective cohort study, we used the US MarketScan® database to identify patients ≥18 years with AF (≥1 AF visit or ≥2 outpatient AF claims) and ≥18 months’ continuous enrollment data between Jan 2003 and Dec 2007. The first qualifying AF diagnosis following ≥12 months of enrollment was designated the index diagnosis. AF was classified as newly-diagnosed (ND) or pre-existing (PRE), based on treatment history in the pre-index period. RESULTS: Of 184,135 identified patients (mean age 73 years, 35% men), 64,669 had ND and 119,486 had PRE AF. Non-pharmacotherapy for AF was undertaken in 11% of patients with ND vs 6% of patients with PRE disease, most commonly cardiovascular (9% vs 4% of patients, respectively). Across both patient groups, 30% received no drug therapy within 30 days of initial AF diagnosis (initial treatment), 17% received antiarrhythmics (rhythm-control agents), 51% rate-control agents, 40% anticoagulants, and 5% antiplatelet agents (aspirin use was not captured). Median duration of uninterrupted initial therapy was 210 days for antiarrhythmics and anticoagulants, 228 days for antiplatelet agents and 420 days for rate-control agents. Over the entire post-index follow-up period (mean 20 months’ ND and ≥12 months’ PRE AF), patients receiving antiarrhythmics (27% vs 28%), rate-control agents (77% vs 76%), anticoagulants (54% vs 66%) and anticoagulants (14% vs 10%); Overall, the most commonly used drugs were amiodarone (15%), β-blockers (56%), calcium channel blockers (23%), cardiac glycosides (35%), warfarin (61%) and clopidogrel (11%). CONCLUSIONS: Non-pharmacological interventions for AF were relatively uncommon. Almost one-third of AF patients in our study remained untreated for the first 30 days after diagnosis, which may represent under-treatment. Rate-control agents and anticoagulants were used more frequently than antiarrhythmics and anticoagulants for treatment of AF.

README ASH AFTER UNAUTHORIZED DISCHARGES IN THE CARDIOVASCULAR SETTING

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OBJECTIVES: Patients who self-discharge against medical advice (AMA) may be at higher risk of getting the unauthorized discharge was premature. The study objective is to examine the relationship between discharges AMA and cardiovascular disease (CVD) hospital readmissions while addressing bias due to potential confounding, selection, and hospital-level clustering. METHODS: This retrospective study uses information from the administrative hospital discharge database for years 2000 to 2005. The outcome variables captured readmissions for a CVD-related condition following an index CVD-related admission. The covariate of interest was an indicator variable for a discharge AMA in the index hospitalization. The relationship between discharges AMA and 30 days, 180 days and 365 days were 145% (p < 0.001), 55% (p < 0.001), 26% (p < 0.001) and 15% (p = 0.0011) higher for patients discharged AMA on index admission compared to those who were discharged formally. Results are robust to corrections for observable selection bias (via propensity score analysis) and hospital-level clustering. CONCLUSIONS: A self-discharge AMA among patients admitted for CVD is predictive of CVD-related readmissions and the strength of association increases as the time between admissions decreases.

PRIORITY-SETTING FOR COMPARATIVE EFFECTIVENESS RESEARCH

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OBJECTIVES: Coincident with the increasing focus on comparative effectiveness research (CER), a number of organizations have begun to engage in prioritizing topics for CER. This paper presents the priority-setting process developed by the Center for Action on Medical Technology Policy (CMTP) and its application to the selection of topics in cardiac technologies. METHODS: We reviewed criteria and processes used by other organizations. We then developed a multi-stage process including, 1) horizon scanning; 2) topic nomination; 3) expert solicitation; 4) topic review and selection; 5) criteria application and discussion by an expert workshop group, and 6) final ranking of topics for varied research projects. After internally refining a broad list to the top ten technologies, we convened an expert workgroup charged with ranking these top technologies using prospectively developed criteria. Experts were provided with a list of criteria and brief summaries clarifying clinical, economic and ethical aspects of each technology. RESULTS: Topic nomination produced an initial list of approximately 40 technologies, which were narrowed to the top ten based on suitability for CMTP’s coverage with evidence development (CDE) initiatives and guidelines.
for designing CER studies projects. The expert working group ranked technologies according to suitability for both CED and the guideline projects. The top 3 technologies that emerged for CED were: 1) pharmacogenetic guidance of warfarin dosing; 2) catheter ablation for atrial fibrillation; and 3) percutaneous aortic valve replacement. For the guideline projects, the ranking was: 1) C-reactive protein testing for heart disease; and 3) biosorbable stents. CONCLUSIONS: A prospectively developed multi-step process focusing on technologies within a disease area may improve the process of prioritizing technologies for CER, offering more direct guidance to researchers and policy makers. Notably, CMTF is initiating a CED project and the advisory workgroup selected the warfarin dosing topic, indicating the success of the process in choosing a relevant technology.

ANALYSIS OF HEALTH CARE OUTCOME FOR CONGESTIVE HEART FAILURE (CHF) PATIENTS

OBJECTIVES: To analyze the difference of in-stay hospitalization frequency between Congestive Heart Failure (CHF) patients who are on the recommended medication and those who are not. METHODS: We use the inpatient, outpatient and medication files from the Thomson Reuters MarketScan data records of 2000 and 2001. First, we extract patients with CHF from the inpatient and outpatient files using ICD9 codes. Next, we extract these patients from the medication files. Depending on the NYHA classification, there is a recommended combination of medication a CHF patient should have. We use these medications to divide the patients into two groups. Then, we analyze the data using logistic regression, kernel density estimation and ANOVA. The preprocessing and the statistical analysis are done using SAS software. RESULTS: The analysis yields a statistically noteworthy difference in proportions of number of in-stay hospitalizations between people on the recommended treatment and those who are not. This difference is significant in length of stay for the two groups. CONCLUSIONS: Being on the recommended combination of medication has a significant impact on the health care outcome for CHF patients.

ASSESSING THE IMPACT OF AN EMPLOYER SPONSORED COMMUNITY PHARMACY BASED MTM PROGRAM ON CLINICAL OUTCOMES FOR PATIENTS WITH DIABETES AND HYPERTENSION

OBJECTIVES: To examine the effect of an employer sponsored, pharmacist-provided medication therapy management program (MTPM) on clinical outcomes and process measures in patients with diabetes and hypertension METHODS: A prospective, intent-to-treat, pre-post longitudinal study. Patients were Lucas County employees and dependents with diabetes, hypertension, or both. The MTPM services were provided by independent pharmacists in Northwest Ohio at seven sites. ADA and JNC-VII guidelines were used to design interventions and set patient goals. Data was analyzed using SPSS v17.0 for three groups—hypertension only, diabetes only, and diabetes and hypertension. Wilcoxon signed-rank test was used to compare 2 time points and the Friedman test was used to compare readings at baseline, 6, 12, and 18 months. RESULTS: Five hundred eighty six patients enrolled at baseline. The Hypertension only group mean systolic blood pressure (SBP) improved from 135.37 ± 18.85 to 130.33 ± 18.35 (p = 0.037). Diastolic blood pressure (DBP) improved from 81.71 ± 10.07 to 78.27 ± 10.02 (p = 0.386). Uncontrolled hypertensive patients SBP improved from 153.03 ± 12.27 to 138.91 ± 19.74 (p = 0.01). DBP improved from 97.07 ± 5.71 to 85.6 ± 13.20 (p < 0.05). For hypertensive diabetic patients SBP improved from 134.59 ± 18.99 to 128.35 ± 18.35 (p = 0.20). DBP improved from 81.52 ± 11.25 to 79.52 ± 12.08 (p = 0.73). Uncontrolled diabetic hypertensive patients SBP mean improved from 145.96 ± 13.83 to 135.29 ± 17.62 (p = 0.02). DBP improved from 87.51 ± 6.54 to 82.71 ± 11.92 (p = 0.04). For uncontrolled diabetic patients A1c improved significantly from 8.02 ± 1.11 to 7.41 ± 0.99 (p < 0.001). Patients with controlled A1c at baseline were able to maintain control for the 18 months of participation in the study. Upon being advised by their pharmacists more patients visited their dentist, podiatrist, and ophthalmologist. CONCLUSIONS: Pharmacists were able to help patients maintain A1c and BP goals thereby preventing future complications and costs to the employer.

EVALUATION OF A HEALTH CARE PROVIDER INTERVENTION TO INITIATE ACEI OR ARB THERAPY AMONG PATIENTS WITH DIABETES PLUS HYPERTENSION AND/OR NEPHROPATHY

OBJECTIVES: ACEI or ARB therapy in patients with diabetes has been shown to delay progression to renal failure. This study evaluated the impact of a mailing intervention to health care providers aiming at optimizing ACEI or ARB therapy in patients with diabetes plus hypertension and/or nephropathy. METHODS: A retrospective cohort study was performed using pharmacy claims data from a large Medicare Part D plan to evaluate an intervention notifying providers of missing ACEI/ARB therapy for 28,348 patients with diabetes plus hypertension and/or nephropathy not qualifying for Medication Therapy Management services (Non-MTM). A control cohort of

RESULT:

50,757 Non-MTM Medicare Part D patients with diabetes plus hypertension and/or nephropathy not receiving ACEI or ARB therapy during the 7-month identification period was selected from a earlier timeframe to be compared to the intervention cohort. The primary outcome was the percentage of identified patients initiating ACEI or ARB therapy during the post-intervention period. The further analysis was performed using a dependent variable of initiation vs. no initiation of ACEI or ARB therapy in the post-intervention period. Independent variables included age, gender, chronic disease score, and hypertension and nephropathy diagnoses. RESULTS: During the post-intervention period the initiation proportion of those beginning ACEI or ARB therapy was 15.0% for the intervention group compared to 12.2% for the control group (p = 0.0001). After adjusting for baseline characteristics, intervened patients had greater odds of initiating ACEI or ARB therapy compared to control patients (OR: 1.40; 95% CI 1.33-1.48). A limitation of this study is the identification and measurement periods for the control group were in a different part of the year than the intervention cohort. CONCLUSIONS: Intervention in patients with diabetes plus hypertension and/or nephropathy via health care provider demonstrated an increased likelihood of initiation of ACEI or ARB therapy compared to a control group.