OBJECTIVES: Electronic medical records (EMRs) increasingly are being used by out-
comes researchers to study the quality of medical care. The study assessed the impact
of non-medical switches in ARB therapy on blood pressure (BP) and medical
resource utilization including hospitalization, office visits and other antihypertensive
medications. METHODS: A retrospective study was conducted using the GE Centricity
EMR of a primary care physicians group. Hypertensive patients >18 years, continuously
enrolled, and receiving ARB therapy were included. Switch must have occurred after
the index hospitalization with a chronic HF claim (ICD-9 428.2, 428.32 or 428.42) were identified in a US commercial insurance claims da-
tabase from 2004-2008. Patients were classified in pharmacotherapy or non-pharmacotherapy treatment groups. Switch must have occurred after
the index hospitalization. Patients who received one ARB therapy were included. Switch must have occurred after
the index hospitalization and stayed on one ARB and 1,768 (36.4%) switched from one ARB to another. Matched
pairs of switchers (n=357) and control group (n=357) were then identified. There were no difference in mean baseline systolic BP (SBP) for switchers (143.79±21.22) and control (144.20±22.16) but switchers had higher post-switch SBP (141.06±18.52) than control (137.97±20.58) (p=0.035). More switchers lost control
from index to first visit post-index period (11.5%) than control (7.8%). More antihypertensive
agents were added in switchers (1.91±1.7) than control (1.02±1.2) in the post-index period (p<0.001). CONCLUSIONS: EMRs have the potential to bridge research with clinical care by providing real-world data. This study demonstrates that non-medical switches may result in loss of BP control and additional medical resource use. Thus, careful consideration should be given before switching thera-
pies with non-medical reasons.

PCV99

MEDICAL RESOURCE UTILIZATION AND COSTS FOLLOWING HOSPITALIZATION OF PATIENTS WITH CHRONIC HEART FAILURE IN THE UNITED STATES

Korevaar C1, Eldar-Lissi A2, Rodemund D3, Swallow K1, Cummings AK1, Arely R2

1Analysis Group, Inc., Boston, MA, USA, 2Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

OBJECTIVES: The study objective was to determine medical resource utilization and direct and indirect costs following hospitalization with chronic heart failure (CHF). METHODS: Patients with ±1 hospitalization with a chronic HF claim (ICD-9 428.22, 428.32 or 428.42) were identified in a US commercial insurance claims da-
tabase from 2004-2008. Patients were observed from beginning of first hospitaliza-
tion (index hospitalization) for 24 months after discharge or end of data avail-
ability. Inpatient, outpatient, and prescription drug data were used to estimate total costs per patient per month (PPPM) utilization rates. Costs (2009 USD) were calculated per hospitalization and PPPM for patients >65 years, and included insurers’ reimburse-
ment, patient-out-of-pocket and sick leave costs. RESULTS: There were 7,814 pa-
tients (mean age 73.2 years, 55.7% male) meeting inclusion criteria. Mean HF hos-
pitalization length of stay increased from 6.7 days at index hospitalization to 8.2 days at fourth re-hospitalization. Rate of HF-related re-hospitalization remained at 0.045 PPPM throughout 24 months of follow-up, accounting for over 78% of all hospitalizations. Rate of all-cause and HF-related outpatient visits peaked at 4.0 and 5.9 visits PPPM, respectively, within the three months after index hospitalization. Index hospitalization was most expensive (direct medical costs =$31,998). Patient out-of-pocket costs accounted for less than 10% of total direct costs. Average PPPM cost varied from $88 to $124, representing less than 1% of the average cost of a HF-
related hospitalization. CONCLUSIONS: Treating chronic HF patients is resource
intensive. The greatest utilization and cost burden occur within the three months after hospitalization and patients continue to be burdened after hospitaliza-
tion by high inpatient and outpatient visit rates.

PCV100

HEALTH CARE UTILIZATION AND COSTS FOR A MEDICATION THERAPY MANAGEMENT (MTM) PROGRAM

Pinto RL, Partha G

University of Toledo, Toledo, OH, USA

OBJECTIVES: 1) To determine costs and utilization incurred by employees follow-
ing enrollment in an employees’ medication therapy management (MTM) program and 2) to assess the impact of attrition on health care expenditures. METHODS: A longitudinal study using medical claims. Study participants were Lucas County employees with diabetes, hypertension and/or hyperlipidemia par-
ticipating in an employer-sponsored open enrollment MTM program. Claims for office visits, inpatient and outpatient hospitalizations, related hospitalizations. Rate of all-cause and HF-related outpatient visits were ana-
lyzed. Expenditures were calculated using claims for one year before and after the dropout date. RESULTS: Claims were received for 361 employees that enrolled in the MTM program. Office visit expenditures went down by $71,442.29 and by 22.36% after joining the MTM pro-
gram. Increase in spending for emergency room visits by $10,401.70. On average, this
was observed, there were no recurring post-enrollment visits and those that occurred
were for indications that could have increased long-term spending for the em-
ployer. Total expenditure on inpatient visits went up by $3,746.36 or 4.169.13 to 4,408.07
VERSUS 6.6%; P

Proportion with complications than without died during hospitalization (11.4%

Patients with

10.5 versus 4.5 days (p

gender distribution (53% versus 54% female; p

0.3476) between complicated and

stay. No differences in patient age (mean: 70.4 versus 70.7 years; p

The patient-centered medical home has been touted as a way to

developed during hospitalization among patients with a primary diagnosis of HS or IS

codes 430.xx, 431.xx, or 432.xx) or IS (433.x1, 434.xx, or 436.xx) in the 2008 HCUP

OBJECTIVES:

Limited data exist regarding the economic burden of complications

during hospitalization for hemorrhagic or ischemic stroke. This study sought to document

the rate of complications arising during hospitalization (i.e., defined as diagnoses

recorded upon discharge but not observed at admission) for hemorrhagic (HS) ischemic

stroke (IS), and describe characteristics of complicated hospitalizations.

METHODS:

Data for hospitalizations with a primary diagnosis of HS (ICD-9-CM codes 430.xx, 431.xx, or 432.xx) or IS (433.x1, 434.xx, or 436.xx) in the 2008 HCUP

Microsoft Claims Database were analyzed. Incidence of complications developed during hospitalization among patients with a primary diagnosis of HS or IS was assessed, and resource-based outcomes (e.g., total cost, length of stay [LOS]) among, and other characteristics of, stays with complications, compared to uncomplicated stays, were analyzed.

RESULTS:

Of the 1.3 million hospitalizations occurring in Michigan in 2008, 19,065 had a primary diagnosis of HS or IS. Among these, 20.6% (n=3,922) had evidence of ≥1 complications arising during the stay. No differences in patient age (mean: 70.4 versus 70.7 years; p=0.3293) or gender distribution (53% versus 54% female; p=0.3476) between complicated and uncomplicated hospitalizations were observed. The top-5 most commonly observed complications were urinary tract infection, site not specified, hypotension; acute respiratory failure; pneumonitis due to inhalation of food or vomitus; and acute kidney failure, unspecified. Compared to uncomplicated hospitalizations, mean LOS and total costs for complicated stays were significantly greater: 10.5 versus 4.5 days (p<0.0001) and $28,608 versus $10,747 (p<0.0001), respectively.

Patients with ≥1 complications spent 2.8 (SD=6.4) days in an ICU, and a greater proportion with complications than without died during hospitalization (11.4% versus 4.5% (p<0.0001), respectively). The cost of stroke-related hospitalizations with complications is significant, ~3 times greater than stroke-related hospitalizations without complications. Efforts to improve inpatient stroke management strategies may help lower the incidence of complications, reduce associated costs, and improve patient outcomes.

PHARMACIST INTERVENTIONS WITHIN A COMMUNITY PHYSICIAN BASED MEDICAL HOME PRACTICE: DIABETES CLINICAL OUTCOMES

Willey VJ1, Reinhold JA1, Kozuch JM1, Amin SM1, Kelly BL2, Kim EA2, Willey KH2

1University of the Sciences, Philadelphia, PA, USA,

2University of Toledo, Toledo, OH, USA

OBJECTIVES: The patient-centered medical home has been touted as a way to improve patient care and reduce overall healthcare costs. Pharmacists are qualified to provide many of the services that are core to the medical home concept as part of the physician-directed team, however, the pharmacist’s role in the medical home has received little attention. METHODS: Medical record review was performed on all patients referred to the pharmacist from 7/1/2009 to 12/1/2010 within a community-based, medical home, primary care practice. Patients referred included those non-compliant to prior physician recommendations for lifestyle modification and/or those not achieving therapeutic goals. Pharmacists’ interventions included disease state education, therapeutic lifestyle modification and medication counseling, and recommendations for therapy optimization. Primary analyses examined pre/post changes in the subset of patients with diabetes. Outcomes assessed were changes in hemoglobin A1c (HbA1c), lipid fractions, body mass index (BMI), weight, and goal attainment for HbA1c and low-density lipoprotein cholesterol (LDL-C), utilizing paired t-tests, Wilcoxon signed-rank and McNemar’s tests as appropriate. RESULTS: One hundred-seven patients were referred to the pharmacist, 49 with diabetes. Diabetes patients had a mean age of 57±9.7 years, 53% were male. HbA1c values decreased from 7.7% to 7.4% (p=0.13%, 95% CI=−0.52% to −2.1%; p=0.003). The percentage of patients achieving HbA1c ≤7.0% rose from 50% to 75% (p=0.021) and below 7% rose from 28% to 47%, although this was not statistically significant (p=0.109). Statistically significant decreases were observed in diastolic blood pressure, LDL-C, total cholesterol, triglycerides, BMI and weight. The percentage of patients achieving LDL-C levels <100mg/dL increased from 30% to 74% (p=0.002). CONCLUSIONS: Pharmacist involvement in this community based medical home was associated with positive improvements in clinical markers for these diabetic patients. These pilot study results support the inclusion of pharmacists as healthcare team members in future medical home demonstration projects.

REAL-WORLD SIDE EFFECT DATA ON CHOLESTEROL MEDICATIONS – OUTPUTS FROM AN ONLINE PATIENT COMMUNITY

Vaidya V, Partha G, Karmakar M

University of Toledo, Toledo, OH, USA

OBJECTIVES: To compare side effect data reported from members of a patient-registry to information contained in the product labeling of four different cholesterol medications each representing a different therapeutic class. METHODS: A random sample of U.S. MediGuard.org members who reported taking niacin (Niaspan), fenofibrate (Tricor), simvastatin (Zocor), or colesvelem (Welchol), were invited to complete a validated online treatment satisfaction survey that includes questions related to side effects. MediGuard.org is a free medication monitoring service that provides information to over 2.5 million members in the US, UK, France, Germany, Spain, and Australia. A comparison list of adverse effects and frequencies reported during clinical trials was extracted from the branded package insert for each medication. RESULTS: Feedback was obtained from 56 colevelem, 108 niacin, 216 fenofibrate, and 660 simvastatin patients. Niacin patients had the highest prevalence of side effects (62%), primarily flushing (55%) and pruritis (14%). 23% of colevelem patients reported side effects: the most common were constipation (14%) and bloating/gas (2%). For patients treated with fenofibrate, 16% reported side effects with myalgia (4.2%) and arthralgia (1.4%) being the most common. Similar to fenofibrate, 16% of simvastatin patients reported side effects and again, myalgia (6.2%) and fatigue (2.1%) had the most mentions. Finally, 2% of niacin, 22% of fenofibrate, 29% of simvastatin, and 36% of colevelem patients report side effects not included in the product labeling. CONCLUSIONS: On-line community emerging resources report adverse events reported during clinical trials and for capturing previously undocumented signals. In tandem to the current post-marketing spontaneous adverse event reporting system, longitudinal patient registries can provide insight not only on the number of adverse events, but also a prevalence rate of those who experience versus those who do not experience side effects.

THE INITIATION AND EXTENT OF DOSE TITRATION OF ACE INHIBITORS AND B-BLOCKERS POST ACUTE MYOCARDIAL INFARCTION: A PROSPECTIVE AUDIT

Alowayesh MS1, Wright P2

1Virginia Commonwealth University, Richmond, VA, USA, 2The London Chest Hospital, London, UK

OBJECTIVES: The objectives of this audit are: (1) to determine the percentage of patients who are discharged on secondary prevention medication following acute myocardial infarction (AMI) including: aspirin, clopidogrel, ACE inhibitors (ACE), b-blockers (BB), and statins, (2) to identify what dose each patient is discharged on regarding ACE and BB and what factors were initiated; (3) to determine how the dose of b-blockers was titrated and discharge doses compared to the optimal dose. (4) to explore the relationship between heart rate and BB dose titration. METHODS: A prospective audit was carried out at the London Chest Hospital (LCH) from June 15-June 28, 2009. All patients who were admitted to the coronary care unit (CCU) with a final diagnosis of AMI were included. Patients were excluded if they died prior to hospital discharge. Patients’ demographics, vital signs, drug history, past medical history, drugs during hospital stay and at discharge were collected. RESULTS: 33 patients were included in this audit (mean age 59.7 ± 12.7 years, 79% males, 21% females) with an average length of stay of 2.3 ± 2.6 days. 88% of the patients were started ACEi and BB on day 2 of hospitalization. For patients receiving ACEi and BB only 41% were titrated towards the optimal dose. 78% of the opportunities to titrate ACEi according to blood pressure and 55% of the opportunities to titrate BB according to heart rate were inappropriately treated. At discharge, 67% were prescribed as initiated and only 97% were prescribed ACEi and clopidogrel. CONCLUSIONS: This audit reveals high use of secondary prevention medication at the LCH following AMI. Although there are opportunities for further dose titration prior to discharge, further work is required to establish reasons for missing these opportunities.