

service transformation. **CONCLUSIONS:** Currently financial incentives do not always encourage providers to transform services or to work collaboratively with each other or with commissioners of care.

#### PP4

##### MEDICATION UTILIZATION TO ANTIDEPRESSANTS AMONG DUAL ELIGIBLES BEFORE AND AFTER PART D

Kim JA, Karaca-Mandic P, Blewett L  
University of Minnesota, Minneapolis, MN, USA

**OBJECTIVES:** To examine whether utilization of antidepressants by dual eligibles were different under Part D compared to Medicaid period by focusing on states which vary baseline state Medicaid policies and wrap-around programs for dual eligibles to access drugs under Part D. **METHODS:** A pre-post study design with a longitudinal dataset by linking Medicaid data for 2004-2005 and 5% random sample of Medicare data for 2006-2007. The study population is dual eligibles, existing users of antidepressants in 2004 and with enrollment from 2004-2007 in eight states. We employ a state-fixed effect model to estimate medication utilization using proportion of days covered (PDC), adjusting for beneficiaries characteristics and health status. We adopt generalized estimation equation (GEE) model for estimation and spline regression for investigating whether changes in PDCs is related to Part D. A stratified analysis is conducted for community based dual eligibles (n=4,703) and nursing home dual eligibles (n=1,504) separately. **RESULTS:** Adjusted PDCs increased to 4.25 percentage point among community dual eligibles (p=0.00) but did not change among nursing home dual eligibles (p=.74) under Part D. Adjusted changes in PDCs were not significant for most states, except Arkansas community based dual eligibles (p=0.00), Florida nursing home dual eligibles (p=0.03) and New Mexico nursing home dual eligibles (p=0.01), which had significant increases under Part D. Separate spline regression for these states indicated that trends in PDC before and after Part D were not significantly different, suggesting that changes were not related to transition to Part D. **CONCLUSIONS:** We did not find empirical support for concerns regarding disruption of medication utilization of the dual eligible under Part D. Although states had different baseline Medicaid policies and wrap-around programs under Part D, lack of significant changes in utilization suggest that minor changes in copayments and refill/prescription limits etc. do not have large effect on medication utilization to antidepressants.

#### PODIUM SESSION III:

##### DRUG USE & DISEASE MANAGEMENT STUDIES

#### DU1

##### TREATING ACUTE HEART FAILURE IN THE ELDERLY: A COMPARISON OF THREE INPATIENT TREATMENT ALTERNATIVES IN THE UNITED STATES

Gradman AH<sup>1</sup>, Vekeman F<sup>2</sup>, Eldar-Lissai A<sup>3</sup>, Trahey A<sup>3</sup>, Lacomte P<sup>4</sup>, Ong SH<sup>4</sup>, Duh MS<sup>3</sup>  
<sup>1</sup>Temple University School of Medicine, Pittsburgh, PA, USA, <sup>2</sup>Groupe d'analyse, Montréal, QC, Canada, <sup>3</sup>Analysis Group, Inc., Boston, MA, USA, <sup>4</sup>Novartis Pharma AG, Basel, Switzerland  
**OBJECTIVES:** Heart failure (HF) is the most frequent cause of hospitalization among US elderly. Despite limited evidence, current guidelines recommend the use of IV vasodilators in addition to IV loop diuretics (LD) for the treatment of acute HF (AHF) patients without hypotension. We investigated whether elderly patients hospitalized for AHF treated with IV LD combined with IV nitrates (NT) or IV nesiritide (NES) achieved better outcomes compared to those receiving IV-LD alone. **METHODS:** US hospital billing records (2007-2009) from the MarketScan Hospital Drug Database were analyzed. Patients  $\geq 65$  years old, with an AHF diagnosis and no evidence of hypotension and/or cardiogenic shock were included. Patients receiving IV-LD alone were paired with patients receiving IV-LD+NT and with patients receiving IV-LD+NES using propensity score matching. Outcomes included in-hospital mortality, length of stay (LOS), cost, and HF re-hospitalization rate. **RESULTS:** Compared to IV-LD alone (N=2,918), patients receiving IV-LD+NT (N=2,918; mean age 78.5 years, 44.7% male) had longer LOS (days, ICU: 1.5 vs. 2.2; total: 5.8 vs. 7.1, p<0.01 for both), higher costs (\$8,810 vs. \$13,387, p<0.01), but similar rates of mortality (2.2% vs. 2.5%, p>0.05) and one year HF re-hospitalization (37.2% vs. 37.4%, p>0.05). Compared to IV-LD alone (N=1,561), patients receiving IV-LD+NES (N=1,561; mean age 77.8 years, 56.7% male) had longer LOS (days, ICU: 1.9 vs. 2.4; total: 5.9 vs. 7.8, p<0.01 for both), higher costs (\$8,775 vs. \$13,040, p<0.01), higher one year HF re-hospitalization rates (38.2% vs. 41.8%, p<0.05), but similar mortality rates (2.8% vs. 3.5%, p>0.05). **CONCLUSIONS:** This study amongst elderly AHF patients indicates that neither NT nor NES in addition to diuretics improve survival compared to diuretics alone, and are associated with longer LOS and higher hospitalization costs. These results raise the question as to whether currently utilized IV vasodilators are of value in the treatment of elderly AHF patients.

#### DU2

##### THE SHORT- AND LONG-TERM IMPACT OF CONSUMER-DRIVEN HIGH DEDUCTIBLE HEALTH PLANS ON MEDICATION USE

Gibson TB<sup>1</sup>, Carls G<sup>1</sup>, Moore BJ<sup>1</sup>, Ehrlich ED<sup>1</sup>, Heithoff K<sup>2</sup>

<sup>1</sup>Truven Health Analytics, Ann Arbor, MI, USA, <sup>2</sup>Merck & Co, Inc., Whitehouse Station, NJ, USA

**OBJECTIVES:** Consumer-Driven and High Deductible Health Plans (CDHP/HDHP) are becoming more common in employer-sponsored plans. Approximately 60% of large firms offered a CDHP/HDHP in 2011. In this study we estimate the short- and long-term impact of enrollment in a CDHP/HDHP on use of chronic medications for diabetes and cardiovascular disorders. **METHODS:** A total of 524,043 CDHP/HDHP enrollees age 18-64 were propensity score matched to a comparison group within similar firms not offering CDHP/HDHP (total

n=1,048,086). A quarterly cross-section time series dataset was created for enrollees one year before and up to four years after enrollment in a CDHP/HDHP. The impact of CDHP/HDHP was evaluated using difference-in-differences, reported as a percent change in trend relative to the comparison group. Medication use outcomes included percent of days covered (PDC) and percent adherent (PDC>80%) for the following drug classes: diabetes, hypertension, dyslipidemia, and other cardiovascular medications, overall and for brand and generic drugs. Administrative claims data was obtained from the MarketScan Commercial Claims and Encounters Database, 2006-2010. **RESULTS:** One year after enrollment, the trend in PDC for oral diabetes medications in the CDHP/HDHP was 4.1% lower than the trend in the comparison group (p<0.001). In addition, the one-year trend in PDC for brand name oral diabetes medications was 10.8% lower than the comparison group (p<0.001). CDHP/HDHP enrollees experienced lower levels of adherence to all other drug classes within 1 year of enrollment. The negative impact of CDHP/HDHP on PDC grew over time. For example, the trend in PDC for oral diabetes medications was 34.2% lower for CDHP/HDHP enrollees than the comparison group (p<0.01) after four years of enrollment in a CDHP/HDHP. **CONCLUSIONS:** Enrollment in a CDHP/HDHP is associated with lower use of and adherence to medications for chronic conditions, potentially exacerbating these chronic conditions.

#### DU3

##### COHORT ANALYSIS ASSESSING MEDICAL AND NON-MEDICAL COST ASSOCIATED WITH OBESITY IN THE WORKPLACE

Abouzaid S<sup>1</sup>, Kleinman NL<sup>2</sup>, Andersen L<sup>3</sup>, Wang Z<sup>1</sup>, Powers A<sup>1</sup>

<sup>1</sup>Eisai Inc., Woodcliff Lake, NJ, USA, <sup>2</sup>The HCMS Group, Cheyenne, WY, USA, <sup>3</sup>HCMS Group, Cheyenne, WY, USA

**OBJECTIVES:** Overweight and obesity are a growing epidemic in the US, affecting more than two-thirds of working-age adults. This study quantifies the economic burden associated with obesity from the employer's perspective, including employee medical, drug, sick leave (SL), short- and long-term disability (STD, LTD), and workers' compensation (WC) costs, work absence days, and self-reported productivity. **METHODS:** Using a retrospective database from large employers throughout the US, employees' body mass index (BMI) values (widely used for categorizing obesity) from 2003-2011 health risk appraisal data were used to create 3 cohorts: BMI<27, 27<=BMI<30, and BMI>=30. All employees were required to have at least 12 months of health coverage post-index (first BMI measurement). Medical and drug costs, SL, STD, LTD, and WC costs and absence days, and Health Productivity Questionnaire responses were measured 12 months post-index and compared between cohorts using regression modeling. Models controlled for differences between cohorts in age, gender, marital status, race, salary, zip-code region, and index year. Employees with pregnancy medical claims were excluded. **RESULTS:** The study included 39,696 (BMI<27), 14,281 (27<=BMI<30), and 18,801 (BMI>=30) eligible employees. Average age and annual salary were 38.8 years and \$87,604 (BMI<27), 40.9 and \$83,178 (27<=BMI<30), and 40.9 and \$65,843 (BMI>=30), respectively. Females represented 32.8% (BMI<27), 22.9% (27<=BMI<30), and 38.9% (BMI>=30) of employees. Per-employee adjusted total annual costs (medical, drug, SL, STD, LTD, and WC combined) were \$4,258 (BMI<27), \$4,873 (27<=BMI<30), and \$6,313 (BMI>=30). Medical and drug costs and SL and WC costs and days were significantly higher for higher BMI cohorts (P<0.01). The BMI>=30 cohort had significantly more STD costs and days and lower productivity than other cohorts (P<0.001). **CONCLUSIONS:** Employees with higher BMI levels are associated with significantly more costs, more absence from work, and lower self-reported productivity, representing a significant economic burden for US employers considering the high prevalence of overweight and obesity.

#### DU4

##### THE ASSOCIATION OF BURN INJURIES AND PSEUDOEPHEDRINE SALES

Goodin AJ, Perin NR, Freeman PR, Talbert J, Wittmer D, Blumenschein K  
University of Kentucky, Lexington, KY, USA

**OBJECTIVES:** Pseudoephedrine (PSE) is used as a precursor in the illicit production of methamphetamine. Policies that restrict the sales of PSE have been adopted to curb production, which causes chemical and thermal burn injuries that create cost and treatment burdens on the health care system. The purpose of this project is to estimate the relationship between burn injuries and PSE sales. **METHODS:** PSE sales data from the National Precursor Log Exchange were merged with hospital discharge data from the Kentucky Cabinet for Health and Family Services Office of Health Policy Public Use Data Set. Kentucky residents with a primary diagnosis of burn (ICD-9 940.0-949.5) in 2010 were included. A negative binomial regression was performed with number of burns per county as the dependent variable. The primary explanatory variable was PSE sales per county (in grams/100 residents). Control variables included: % high school graduates over 25, urbanicity, and unemployment, all adjusted by county population. **RESULTS:** In 2010, 340 burns were treated in Kentucky facilities with 33 counties having no burns and 94% of counties having 6 or fewer burns. Mean PSE sales were 49 g/100 county residents (SD=39), with a range of 0.3 g to 147 g per 100 county residents. A 1 gram increase in PSE sales per 100 residents was associated with an increase of approximately 1.1 burns per county (p<0.001). Controlling for population, urban counties had more burns than rural counties (p=0.004) and counties with higher percentages of high school graduates had fewer burns (p<0.001). Results were robust to various dispersion settings. **CONCLUSIONS:** These results suggest that PSE sales are associated with burn injuries. Limitations include missing data on cross-border PSE sales and the inability to distinguish methamphetamine-related burn injuries from other burns. These findings suggest that additional PSE sales restrictions may reduce the number of burn-related discharges.