up and significant reduction on medications consumption. Patients who increased BMI during the wait list presented lower rates of comorbidities resolution compared to patients who maintained or reduced their BMI in the wait list. Based on the outcomes presented, bariatric surgery is a procedure that can help the Brazilian health system to treat obesity and its co-morbidities

PCV95

A CONSERVATIVE APPROACH TO ASSESS WARFARIN TIME-IN-THERAPEUTIC RANGES AMONG NONVALVULAR ATRIAL FIBRILLATION PATIENTS IN AN INTEGRATED HEALTHCARE DELIVERY SYSTEM SETTING IN THE U.S

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OBJECTIVES: The efficacy of warfarin for reducing stroke risk is influenced by its time-in-therapeutic range (TTR, i.e. time patients spend having an international normalized prothrombin time ratio, INR=2-3). This study evaluated warfarin TTRs among nonvalvular atrial fibrillation (NVAF) patients treated in an integrated healthcare delivery system (IDHS) setting. **METHODS:** Patients with NVAF, warfarin therapy, and INR measurements were identified from an electronic medical record database (1/1/2004-8/31/2013). NVAF patients were required to have ≥6 INR test values to ensure chronic warfarin therapy. Warfarin TTRs were determined by the modified Rosendaal method. INR values collected during hospitalization stays were not included in the TTR calculation, since they may not be indicative of poor INR control. Patient characteristics during a 12-month follow-up period after the first INR test were evaluated. **RESULTS:** Among the NVAF study population, greater than half (54%, n=1,595) had a low TTR (<60%) and 46% (n=1,356) had a high TTR (≥60%). Mean ages of patients with low and high TTR were 71.1 and 72.2 years, respectively. Charlson Comorbidity Index (2.9 vs. 2.3, p<0.001) and CHADS2 (2.2 vs. 2.0, p<0.001) scores were higher for NVAF patients with low TTR vs. high TTR. Among NVAF patients with low TTR, 79% had a warfarin TTR <55% and 21% had a TTR of 55-60% during the follow-up period. Among NVAF patients with high TTR, 24%, 41%, and 35% had warfarin TTRs of 60-64%, of 65-74%, and ≥75%, respectively during the follow-up period. Among NVAF patients with low and high TTR, 45% and 73% of them spent time in the warfarin therapeutic range (INR between 2-3), respectively. **CONCLUSIONS:** Based on a conservative approach to evaluate the warfarin TTR, our results indicate that it still remains very challenging in a contemporary real-world setting to achieve consistently good levels for the majority of our NVAF patients.

PCV96

ANALYSIS OF KENTUCKY MEDICAID MANAGED CARE VERSUS FEE-FOR-SERVICE SYSTEMS: MEDICATION ADHERENCE IN PATIENTS WITH ESSENTIAL HYPERTENSION

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OBJECTIVES: A key goal for managed care organizations is to improve patient health outcomes and reduce costs. One strategy involves increasing medication adherence among patients with chronic diseases. The Kentucky Department for Medicaid Services contracted with three managed care organizations in November 2011 to transition the state's traditional fee-for-service Medicaid patients into capitated managed care. The purpose of this study is to determine differences in medication adherence before and after the switch from fee-for-service to managed care for Medicaid patients in Kentucky with essential hypertension between 2010 and 2012. **METHODS:** The retrospective cohort study sample will be drawn from a database of Kentucky Medicaid patient (age 18-64) medical and prescription claims between 2010 and 2012. The University of Kentucky Internal Review Board approved the study. The study will include descriptive statistics of the medication possession ratio (MPR) and control variables including patient demographics, type of antihypertensive, and comorbidities. Bivariate analyses will measure the effect of each variable on the change in MPR as a result of the switch. Multivariate analysis will be a difference-in-difference regression model, measuring the pre and post differences in MPR due to the introduction of managed care. **RESULTS:** Initial data collected indicate that average MPR decreased by about 13 percentage points, regardless of medication class, after Medicaid managed care in Kentucky took effect, with other factors held constant. A 13-percentage point decrease in MPR corresponds to about 45 fewer days of medication possession. **CONCLUSIONS:** Results are preliminary, but indicate a need to address the efficacy of Medicaid managed care on adherence to antihypertensives in Kentucky. Additional studies should be conducted with data from 2013 to ensure confounding due to transitional issues is eliminated. Future studies will examine the effect of Medicaid managed care on adherence in hyperlipidemia, diabetes, asthma, and mental health disorders.

PCV97

THE 5 PRINCIPAL CAUSES OF DEATH IN MEXICO IN THE LAST 5 YEARS, IS THE PUBLIC HEALTH SYSTEM COVERING THESE NEEDS?

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OBJECTIVES: The aim of this work is to demonstrate if the National Health Formulary (NHF) has included drugs related to the principal causes of death in the last 5 years (Diabetes Mellitus (DM), Ischemic Heart Diseases (IHD), Cerebrovascular Diseases (CD), Alcoholic Liver Diseases (ALD) and Chronic Obstructive Pulmonary Disease (COPD)), and if the number of the drugs added each year is in accordance with the increase number of deaths per disease. **METHODS:** A search in the National Institute of Statistics and Geography and the National System of Information on Health was done, from 2009 to 2013, related to the 5 principal causes of death in Mexico. Then, there were counted and analyzed the number of drugs prescribed for each disease studied in the last 5 NHF editions. Finally, all data obtained was matched and analyzed to see if there any trend and relation between the number of drugs added in the NHF and the percentage of deaths listed for each disease. **RESULTS:** The NHF has drugs for every disease evaluated. In the period analyzed, the number of drugs for DM has increased from 18 to 24. In the case of IHD, the number has also grown from 20 to 32. For CD there has been also an addition from 10 to 13. The drugs for ALD is the same in each year (only one drug). At last, for COPD the number has change from 35 to 36 drugs. Comparing with the number of deaths, the IHD is the disease with the biggest increased of deaths (22%), then the DM with 12%, COPD 11%, ALD 4%, and CD 3%. **CONCLUSIONS:** Although there have been added new drugs prescribed for the diseases that caused the deaths of most population in the NHF, this quantity is not comparable with the growing of deaths observed in each disease.

PCV98

SOCIOECONOMIC FACTORS AND PRESCRIBED MEDICINES EXPENDITURES ASSOCIATED WITH ANTIHYPERLIPIDEMIC THERAPY; A COMPARISON BETWEEN HYPERLIPIDEMIA PATIENTS WITH AND WITHOUT TREATMENT

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OBJECTIVES: As reported by the Centers for Disease Control and Prevention (CDC) more than half of adults with high blood cholesterol level did not receive any treatment. Untreated high blood cholesterol can lead to coronary heart diseases. The primary objective of this study is to describe and contrast the socioeconomic factors between treated and untreated patients with hyperlipidemia. Secondary objective is to compare prescribed medicines expenditures between the two groups. **METHODS:** This study conducted cross-sectional secondary data analyses using 2012 Medical Expenditures Panel Survey (MEPS). Study subjects consisted of US civilian, non-institutionalized adults diagnosed with high blood cholesterol. Series of statistical comparisons on socioeconomic factors, and prescribed medicines expenditures and utilizations between hyperlipidemia patients with any FDA-approved lipid lowering agent and hyperlipidemia patients without lipid lowering agents. The Andersen Behavioral Model was applied to define the socioeconomic factors. SAS 9.3 statistical software was used for all analyses including sample weights and standard errors adjustments. **RESULTS:** Approximately 19 million patients had high blood cholesterol related events in 2012. The average age of treatment group was older than the average age of no-treatment group, 64 and 62 years old respectively, (p<0.001). 95% of hyperlipidemia patients with high income had treatment, on the contrary, 93% of hyperlipidemia patients with near poor income had treatment. The average total prescription expenditures for patients with treatment was higher than patients without treatment, $3032 and $2509 respectively, (p<0.001). **CONCLUSIONS:** The study findings showed substantial number of hyperlipidemia patients without treatment. Also there were some socioeconomic differences between treatment group and no-treatment group. Further research is recommended to understand the complex role of socioeconomic factors in hyperlipidemia therapy to make more effective policies and programs designed to improve treatment for one of the major chronic conditions in the United States.

PCV99

THE USE OF STATINS AMONG PRIOR-USERS AFTER HEMODIALYSIS

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OBJECTIVES: To analyze the use of statins in 90 days after hemodialysis among the prior-users. **METHODS:** This retrospective cohort study used the 1997-2008 National Health Insurance Research Data to analyze the use of statins among prior users aged 20 years or older after they started maintenance hemodialysis. These prior users were prescribed with statins at least once in 180 days prior to hemodialysis. Discontinuation of statin prescription was defined when there was no prescription records in the following 90 days, and the date of discontinuation was coded as the last date of prescription plus medication period. We used Cox proportional hazard model to examine the potential factors attributable to the discontinuation of statin prescription. We also analyze the pattern of re-use of statins after one year. **RESULTS:** Among 8982 statin users, 2079 patients continued to use statins after hemodialysis. In 90 days after hemodialysis, the average medication days among the continued users was 65.8 days. Among the discontinued users, 65% stopped using statins in the 90 days before hemodialysis; 8.7% of them started using statins in the first 6 months and 19% started in the first year again. Analysis of the Cox proportional hazard model showed that being male(HR 1.10, 95% CI 1.05, 1.15) and no statin prescription in 90 days before hemodialysis(HR 1.78ï¿½, 95% CI 1.68, 1.87) were attributable to the discontinuation of statins in 90 days after hemodialysis; those with coronary heart disease(HR 0.93ï¿½, 95% CI 0.89, 0.98) and peripheral vascular disease(HR 0.87ï¿½, 95% CI 0.79, 0.96) tended to continue using statins. **CONCLUSIONS:** Most statin users stopped using statins after hemodialysis. In fact, most of them stopped using statins in the 90 days before hemodialysis. Subjects who were female and with medical history of cardiovascular diseases or peripheral vascular disease were more likely to continue using of statins after hemodialysis.

PCV100

AGENTS ACTING ON RENIN-ANGIOTENSIN SYSTEM USAGE IN CROATIA DURING THE FOURTEEN-YEAR PERIOD: IMPACT OF GENERICS

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OBJECTIVES: Cardiovascular diseases (CVD) are the major health problem in contemporary world, particularly in developing countries. The impact of the costs of Agents acting on RAS to the healthcare budgets is relatively high. It is important to establish the use of cheaper generic and to reduce the healthcare costs. The aim of our study was to identify and analyze changes in the usage of these

drugs in Croatia from 2000-2013 and to identify the rate of the generic drugs usage as well as the average price for 1 DDD. **METHODS:** Data on the consumption have been obtained from the database IMS (International Medical Statistics) for Croatia. According to the World Health Organization Collaborating Centre for Drugs Statistics Methodology annual volumes of drugs are presented in defined daily doses/1000 inhabitants/day (DDD/1000), while financial expenditure data are presented in Euros (€). **RESULTS:** The total usage of Agents acting on RAS (C09 subgroup) in constantly increasing from 58,56 DDD/1000 inh/day in 2000. to 199,88 DDD/1000 inh/day in 2013. In 14-year period, consumption in DDD/1000 inh/day increased 241%, while the financial expenditure in same period increased 74% (from 28,8 mil € in 2000 to 50,3 mil € in 2013), but achieved its maximum in 2008 (57,7 mil €). The consumption share of generic Agents acting on RAS decreased from 90% in 2000 to 56% in 2006, then constantly increasing to 68% in 2013. **CONCLUSIONS:** Drugs prescription patterns among Agents acting on RAS have been changing during the 14-year period in Croatia. Impact of generics decreased until 2006. Because of introduction of new original drugs, but the national healthare policy promoting generics resulted in their increase of share up to 2013. Although the generic drugs usage in C09 subgroup is relatively high, it should be further supported and promoted.

PCV101

RESULTS OF AN INTERVENTION IN PRESCRIPTION OF CONVENTIONAL RELEASE VERAPAMIL IN PATIENTS WITH HYPERTENSION IN COLOMBIA

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OBJECTIVES: Identify patients who were being treated for hypertension with conventional release verapamil (CRV), notify the responsible of health care about cardiovascular risk to which they are exposed and achieve a reduction in the number of patients who use it. **METHODS:** A quasi-experimental prospective before and after study without a control group was conducted in 7289 patients diagnosed with hypertension to be found in treatment with CRV, between October 1, 2012 and December 31, 2012 in 8 Colombian cities from a database for dispensing medicines. Socio-demographic and pharmacological variables were evaluated. A total of 108 educational interventions were performed for those responsible for health care, and evaluated within three months the proportion of suspension of the prescriptions of CRV. Multivariate analysis was performed using SPSS 22.0. **RESULTS:** The mean age of patients was 67.9±11.8 years (range: 26-96 years). 70.6% were men. Was obtained that discontinue treatment with CRV a total of 1922 patients (26.3% of users), distributed as follows: 1160 (60.4%) were the presentation of 120 mg, while 762 (39.6%) the 80 mg. The variable being treated in the city of Medellín (OR: 17.6; 95% CI: 11.949 to 25.924; p <0.001) was associated statistically significant with change of CRV by another antihypertensive. **CONCLUSIONS:** We found relative moderate adherence to recommendations about the proper use of CRV in hypertensive patients. Must be reinforced intervention programs that reduce inappropriate prescribing of potential risks to patients of insurance companies and cities where the change was not achieved.

PCV102

DRUG USE AMONG SENIORS ON PUBLIC DRUG PROGRAMS IN CANADA, 2012

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OBJECTIVES: This analysis provides an in-depth look at the number and types of drugs used by seniors, and compares drug use among seniors living in long-term care (LTC) facilities and those living in the community. **METHODS:** Data from the National Prescription Drug Utilization Information System (NPDUIS) Database, housed at CIHI, as submitted by eight Provincial drug programs and one Federal drug program in Canada, including drug claims for approximately 70% of Canadian seniors. **RESULTS:** In 2012, nearly two-thirds (65.9%) of seniors had claims for 5 or more drug classes, and more than one-quarter (27.2%) of seniors had claims for 10 or more drug classes. The proportion of seniors age 85 and older with claims for 10 or more drug classes (39.3%) was double that of seniors age 65 to 74 (20.0%). Six of the 10 drug classes most commonly used by seniors were cardiovascular-related. The most commonly used drug class was statins, which are used by almost half of seniors (46.6%). More than one-third of seniors (38.9%) had claims for a drug on the Beers list—a list of drugs identified as potentially inappropriate to prescribe to seniors. More than half of seniors living in LTC facilities were using 10 or more different drug classes (60.9%), more than double the proportion among seniors living in the community (26.1%). In LTC facilities benzodiazepine use was double the rate, antidepressant use triple the rate and antipsychotic use nine times the rate among seniors living in the community. **CONCLUSIONS:** Findings suggest a high proportion of seniors, particularly those living in LTC facilities may be at risk for drug interactions and other adverse events due to the number of medications they are taking. This illustrates the importance of medication management strategies for seniors, and the need for communication between health care providers regarding seniors' drug regimens.

PCV103

GENERIC DRUG DISCOUNT PROGRAMS AND THEIR POTENTIAL IMPACT ON THE COMPLETENESS OF PHARMACY CLAIMS DATA

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OBJECTIVES: Generic Drug Discount Programs (GDDPs), introduced in 2006 and offered by the majority of retail pharmacies nationwide, offer many commonly used medications at low out-of-pocket prices. The objective of this study was to estimate the proportion of prescription claims filled using a GDDP for four commonly used medications. **METHODS:** The Medical Expenditure Panel Survey annual prescribed medicines event file, a nationally representative sample that contains detailed drug information including payments made by private insurance, Medicaid/Medicare, out-of-pocket, and other sources, was used for this study. Annual prescription claim records, including new fills and refills of any quantity dispensed, were estimated from 2006-2012 for all branded and generic monotherapy formulations of lisinopril, hydrochlorothiazide, metformin, and levothyroxine. Claims were considered GDDP-filled if the following criteria were met: the only recorded price paid was patient out-of-pocket, and the quantity dispensed and out-of-pocket price-paid matched published GDDP pharmacy lists, including Walmart, Walgreens, CVS, RiteAid, and Kroger. **RESULTS:** In 2006, the percentage of GDDP-filled prescriptions was low: 8.1% (N=4,472,797) of hydrochlorothiazide, 4.0% (N=3,880,992) of levothyroxine, 0.01% (N=4,008) of metformin, and 0.0% of lisinopril. This increased in 2008, to 2.4% (N=1,676,928) for metformin, 8.0% (N=7,107,840) for lisinopril, 16.8% (N=9,024,532) for hydrochlorothiazide, and 18.9% (N=13,035,972) for levothyroxine. In 2009, all medications had a GDDP-filled rate around 20% or greater. The highest percentages were seen in 2010: 22.5% (N=12,033,009) of hydrochlorothiazide, 25.1% (N=27,033,234) of levothyroxine, 25.5% (N=17,593,051) of metformin, and 29.6% (N=30,115,329) of lisinopril. By 2012 this decreased, and 19.6% (N=9,715,614) of hydrochlorothiazide, 20.3% (N=20,813,050) of lisinopril, 22.1% (N=21,425,226) of levothyroxine, and 23.2% (N=17,842,540) of metformin prescriptions were GDDP-filled. **CONCLUSIONS:** By 2012, approximately 1 in 5 prescriptions for lisinopril, hydrochlorothiazide, metformin, and levothyroxine were filled using a GDDP. As they are cash-only, these prescriptions may not be processed via a pharmacy benefit manager, and therefore may be missing from insurance claims data.

PCV104

TIMELY USE OF ACE INHIBITORS AND ARBS AFTER NEWLY DIAGNOSED DIABETES AMONG OLDER ADULTS WITH HYPERTENSION IN THE U.S

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OBJECTIVES: ACE inhibitors and ARBs are the cornerstone of therapy for patients with hypertension and type 2 diabetes. However, they have been shown to be underutilized in elderly patients at high risk for complications. The objectives of this study are to 1) assess earlier use of ACEIs/ARBs after incident diabetes diagnosis by race/ethnicity groups, and 2) assess whether the use of ACEIs/ARBs improves over time after diabetes diagnosis by race/ethnicity group. **METHODS:** We identified fee-for-service Medicare beneficiaries over the age of 65 with hypertension and newly diagnosed T2DM using data from CMS. Treatment use, baseline demographics, and other covariates were measured during the 12-month baseline period and the index date. Standardized differences were used to assess ACEI/ARB use and a marginal effects model with GEE was applied to investigate race/ethnicity differences in use rates. **RESULTS:** 55.5% of 135,923 patients received ACEI/ARB therapy within 3 months post-diabetes diagnosis (65.2% ACEIs, 38.5% ARBs). ACEI/ARB users within 3 months after a diabetes diagnosis were younger and had fewer comorbidities, except for hyperlipidemia. Compared to non-users, ACEIs/ARBs users had more medication use. Among the racial/ethnic subgroups, Asians and Hispanics had the highest rate of use (59%), followed by Other (56%), White (55%), and Black (53%). Asians and Hispanics had 4% and 6% higher RR for use and Blacks had a 2% lower RR compared to Whites. Overall, rates of use over time decreased by 1% to 2%, except for a mild increase among Blacks (1% to 2%). However, subgroup analyses indicated that the decrease could be attributed to patients receiving ACEI/ARB therapy prior to diabetes diagnosis. Untreated patients showed an increase in use over time. **CONCLUSIONS:** Overall, ACEIs/ARBs are underutilized based on current treatment guidelines and use varies significantly across races/ethnicities. Future studies are needed to assess reasons for underuse of ACEIs/ARBs to promote better health outcomes.

PCV105

GAPS IN STATINS USE AMONG OLDER ADULTS WITH NEW ONSET DIABETES IN THE US

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OBJECTIVES: The prevalence of statin use in older adults with new onset diabetes (T2DM), frequently presenting with co-morbidities and susceptible to poor outcomes, has not been well characterized. The objective of this study was to examine and characterize the prevalence of statin use among Medicare patients newly diagnosed with diabetes, and to assess statins use gaps by age, gender, and race/ethnicity as well as those with and without underlying cardiovascular disease (CVD). **METHODS:** This was a retrospective cohort study using pharmacy and medical claims from CMS. Enrollees with a new T2DM diagnosis (index date) in 2008, aged 65 years or older, continuously enrolled in Medicare Part A, B, and D, and who survived at least 90 days after the index date were included. The prevalence of statin use within 90 days of index date across age, gender, race/ethnicity, and baseline CVD status was assessed. Multivariable logistic regression was applied to investigate the effects of the independent variables. **RESULTS:** An average statin usage rate of 46.3% was found in the 168,800 eligible patients included in the study. 66,525 patients in the cohort had underlying co-morbid CVD and were more likely to receive statins than those without baseline CVD both before (OR=1.62, 95% CI 1.58-1.67) and after (OR=1.23, 95% CI 1.17-1.28) adjusting for baseline treatment including statin medications, post- diagnosis. Significant disparities in statin use were found in gender, race/ethnicity, and age. Males were more likely than females to receive statins. Asians also higher statin usage compared to Caucasians, and those aged 65-74 were more likely use treatment compared to patients older than 75. **CONCLUSIONS:** Statin treatment usage patterns vary significantly among newly diagnosed older adults with new onset diabetes.

PCV106

INFLUENCE OF COST SHARING DIFFERENTIALS ON THERAPEUTIC SUBSTITUTION AND MEDICATION ADHERENCE: THE STORY OF STATINS IN 2006

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OBJECTIVES: The availability of enhanced Medicare Part D plans with generic-only coverage during the coverage gap (i.e. donut hole) and the genericization of pravas-