in EU5, a subject about which nothing has been published to date. **METHODS:** A burden of illness model was constructed to examine the impact of RHT in EU5, specifically the incremental incidence, mortality and direct medical costs of CVD, which includes: coronary heart disease (CHD), congestive heart failure (CHF) and stroke. Framingham risk equations which included a coefficient for treatment resistance and SCORE risk charts were used to estimate the risk of CVD for patients with and without RHT. Transition probability data were taken from the literature to estimate the risk of death from CVD events, subsequent CVD events and ESRD. Direct costs for these events and their long-term consequences were taken from the literature and from country-specific drug and acute inpatient costs. **RESULTS:** The total direct medical cost of RHT in EU5 is estimated to be €3.9 billion in 2013. This does not include the cost for drugs to treat RHT, or other costs such as lost productivity not directly borne by the health care system. RHT will contribute to 188,000 cases of CHD, 57,400 strokes, 31,500 CHF and 1,400 ESRD and 30,000 deaths in 2013. **CONCLUSIONS:** The burden of RHT due to the increased incidence of CVD and ESRD is high. Reducing the incidence of CVD and ESRD through better blood pressure control should be a priority for health care decision makers.

PCV54

RETROSPECTIVE COSTING STUDY TO ESTIMATE BURDEN OF HEART FAILURE IN SPAIN

Llorens P[1], Crespo C[2], Pérez-Alcántara F[2]
[1]*Hospital General Universitario, Alicante, Spain,* [2]*Oblikue Consulting, Barcelona, Spain*

OBJECTIVES: To analyze and estimate resource utilization and associated costs, one year following an acute episode of heart failure (HF) in Spain. **METHODS:** Patient-flow data after index hospitalization for acute HF (AHF) were obtained from EAHFE database, an emergency (ER)-based registry containing records of all AHF patients treated in 29 Spanish hospitals (over 5,800 cases). Estimated medical resource utilization data during patients' ER and other wards stay, hospitalization, and first-year follow-up was collected from medical specialists through questionnaire. AHF episodes and hospitalizations incident rates were estimated through literature review and disease statistics in official sources. Cost data was retrieved from Spanish Pharmacists official sources and a national health care costs database (Euros, 2013). To assess uncertainty, sensitivity analysis was carried out. **RESULTS:** A total of 111,803 annual hospital admissions are estimated in Spain (2013). 92% of patients suffering an AHF episode are discharged alive and of these 90% survive the first month; 23% of these patients are discharged directly from ER, while the majority of those who are hospitalized, are admitted to Internal Medicine (53%) or Cardiology (17%) wards. On an average, patients are re-admitted 0.41 times within 1 year. Total direct costs in the first year following an AHF episode averages €6,822, of which 88% are incurred in hospital, with drugs and diagnostic tests accounting for less than 5% of all hospital costs. Follow-up costs, in average, split equally between drugs and outpatient visits/tests, but vary widely depending on local HF protocols. Extrapolation of results to the Spanish population suggests that the total burden of HF is more than €542 million per year. **CONCLUSIONS:** Treating HF patients within Spain is resource intensive. Costs are primarily incurred in hospital and are mostly driven by the length of stay.

PCV55

THE BURDEN OF ILLNESS OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION: A MANAGED CARE PERSPECTIVE IN THE UNITED STATES

Joish VN[1], Muccino D[1], Kreilick C[2], Kamalakar R[2], Yao J[2], Mathai S[3]
[1]*Bayer HealthCare Pharmaceuticals, Inc., Wayne, NJ, USA,* [2]*Bayer HealthCare, Wayne, NJ, USA,* [3]*Johns Hopkins University School of Medicine, Baltimore, MD, USA*

OBJECTIVES: Chronic thromboembolic hypertension (CTEPH) is associated with considerable morbidity and mortality. The objective of this study was to describe the burden of illness in patients with CTEPH. **METHODS:** Data for this study came from a large commercial claims database. CTEPH patients were identified based on having >2 medical claims for either primary pulmonary hypertension (ICD-9 code:416.0) or chronic pulmonary heart disease (ICD-9 code:416.8), history of pulmonary embolism in the past one year (ICD-9 code:415.1, V12.51, 38.7; CPT-4 codes:36010, 37620, 75825, 75940; HCPCS codes:C1880) and either one claim for right heart catheterization or one claim of echocardiogram and diagnosed by a pulmonologist/cardiologist within 12 months of the medical claim. Demographic variables were extracted at a patient level from administrative files and economic variables, which included health care utilization and costs for outpatient, inpatient, emergency and pharmacy services came from the respective medical and pharmacy claim files and summarized at a per-patient-per-month (PPPM). Five controls were randomly picked and matched to each CTEPH patient on demographic characteristics. Incremental burden of CTEPH was estimated using non-parametric statistical tests between controls and CTEPH group. All costs were adjusted to 2012 base year using consumer price index. **RESULTS:** A total of 191 CTEPH patients were identified and matched to 955 controls. CTEPH group had significantly higher ($p<0.001$) PPPM health care utilization compared to the matched control across all drivers: outpatient (3.1 vs. 1.5), inpatient (0.13 vs. 0.02), emergency room (0.16 vs. 0.04), and pharmacy services (4.5 vs. 2.6). The increase in utilization translated in higher ($p<0.001$) total PPPM incremental costs of $5,007 in the CTEPH group with inpatient ($3,909 vs. $332) and pharmacy costs ($607 vs. $180) being as much as twelve and three times greater compared to controls. **CONCLUSIONS:** Health care resource use and costs for CTEPH patients is high from a managed care perspective.

PCV56

THE BURDEN OF ILLNESS OF PULMONARY ARTERIAL HYPERTENSION: A MANAGED CARE PERSPECTIVE IN THE UNITED STATES

Joish VN[1], Muccino D[1], Kreilick C[2], Kamalakar R[2], Yao J[2], Mathai S[3]
[1]*Bayer HealthCare Pharmaceuticals, Inc., Wayne, NJ, USA,* [2]*Bayer HealthCare, Wayne, NJ, USA,* [3]*Johns Hopkins University School of Medicine, Baltimore, MD, USA*

OBJECTIVES: Pulmonary arterial hypertension (PAH) is a progressive disease resulting in high health care resource use and costs. The objective of this study was to estimate the burden of illness in PAH patients. **METHODS:** Data came from a large commercial claims database. PAH patients were identified based on having >2 medical claims for primary pulmonary hypertension (ICD-9 code:416.0), and either one claim for right heart catheterization or one claim of echocardiogram and diagnosed by a pulmonologist/cardiologist within 12 months of the medical claim. The first medical claim during this period served as in the index date with 12 months prior to this event as baseline and 12 months post as follow-up period. Demographic variables were extracted at a patient level from administrative files and economic variables, which included health care utilization and costs for outpatient, inpatient, emergency and pharmacy services came from the respective medical and pharmacy claim files and summarized at a per-patient-per-month (PPPM). Five controls were randomly picked and matched to each PAH patient on demographic characteristics. Incremental burden of PAH was estimated using non-parametric statistical tests between controls and PAH group. All costs were adjusted to 2012 base year using consumer price index. **RESULTS:** A total of 2,245 PAH patients were identified and matched to 11,225 controls. PAH group had significantly higher ($p<0.001$) PPPM health care utilization compared to the matched control across all drivers: outpatient (2.6 vs. 1.5), inpatient (0.08 vs. 0.02), emergency room (0.1 vs. 0.04), and pharmacy services (4.2 vs. 2.6). The increase in utilization translated in higher ($p<0.001$) total PPPM incremental costs of $3,193 in the PAH group with inpatient ($1,665 vs. $345) and pharmacy costs ($790 vs. $178) being as much as five times greater compared to controls. **CONCLUSIONS:** Health care resource use and costs for PAH patients is high from a managed care perspective.

PCV57

COSTS OF ACUTE HEART FAILURE IN FRANCE

Bouee S[1], Laurendeau C[2], Detournay B[1], Kind B[3], Deschaseaux C[4], Ong SH[4], Lecomte P[4]
[1]*Cemka, Bourg la Reine, France,* [2]*Cemka-Eval, Bourg la Reine, France,* [3]*Novartis, Rueil-Malmaison, France,* [4]*Novartis Pharma AG, Basel, Switzerland*

OBJECTIVES: To describe the incidence and profile of patients hospitalised for acute heart failure (AHF); to assess the trajectories of patients before and after hospitalization; and to estimate the cost of AHF inpatients stays. **METHODS:** Patients with AHF were identified over a 5-year period (2006 - 2010) from the French PMSI (Programme de Médicalisation des Systèmes d'Information), a national disease-related group inpatient database. The PMSI database contains data related to all private and public hospital stays in France (about 20 millions/year). Heart failure was identified with the ICD-10, code I50. **RESULTS:** The numbers of patients hospitalised at least once per year for AHF increased from 144,043 in 2006 to 158,623 in 2010. These numbers lead to incidence rates of 2.28‰ in 2006 and 2.45‰ in 2010. The proportion of patients aged ≥75 increased from 71.0% in 2006 to 74.3% in 2010. Half of patients were male. The mean number of comorbidities was 9.6 in 2010. The mean length of stay was 9.5 days and 12.6 days per year (2010), as mean re-hospitalization for AHF within the same year was 22%. The mean annual number of AHF hospitalisations per patient was 1.3. The mean cost for an AHF hospitalisation in the acute setting was 4,713€ in 2010. The mean annual cost for all hospitalisations occurring for a patient hospitalised at least once in a year (2010) for AHF was 6,253€. Mean costs per hospital stay was higher if the patient died during hospitalisation (5,722€ vs. 4,627€, $p<0.001$). Extrapolation to the whole country leads to a yearly cost of nearly a billion of euros (991 millions). **CONCLUSIONS:** Incidence of AHF hospitalisation increased in the recent years. This analysis highlighted the high economic hospital burden of AHF in France.

PCV58

DISEASE BURDEN OF ISCHEMIC STROKE ALONG FIRST YEAR POST-STROKE IN SPAIN

Álvarez Sabín J[1], Masjuan J[2], Yébenes M[3], Mar J[4], Oliva J[5], González-Rojas N[6]
[1]*Hospital Vall D'Hebrón, Barcelona, Spain,* [2]*Hospital Ramón y Cajal, Madrid, Spain,* [3]*Pharmacoeconomics & Outcomes Research Iberia, Madrid, Spain,* [4]*Hospital Alto Deba, Mondragon, Spain,* [5]*Castilla-La Mancha University, Toledo, Spain,* [6]*Boehringer Ingelheim, Sant Cugat del Vallès (Barcelona), Spain*

OBJECTIVES: Stroke has catastrophic consequences resulting in death or disability in 80% of patients and representing a substantial burden on the health care system, as well as on patients, family, and society. Stroke is considered as the 2nd cause of burden of disease in Europe and ischemic stroke (IS) represents a high percentage of total strokes. The objective of the present study was to analyze the first year post-stroke burden of IS in Spain. **METHODS:** We performed an observational, multicenter, naturalistic and prospective study that included 16 hospitals (stroke units of National Health System hospitals) of 16 Spain regions. We took into consideration consumption of health care resources, social burden, productivity lost and health-related quality of live of patient and caregiver during the first year post-stroke. **RESULTS:** A total of 321 stroke patients were recruited. Mean age 72 years, 54.8% male. Basal NIH stroke scale was 9.11 and 28.9% presented moderate-high disability. 291 (90.7%) patients presented IS. Overall 1-year cost per IS was 27,596.53€. Direct health care costs were 8,623.35€ (31.25%), direct intrahospital health care costs supposed 69% (5,926.21€) of these costs. Direct non-health care costs were 18,377.75€ (66.59%), of which 16,515.09€ (59.84%) were informal care costs. Productivity lost was 595.43€ (2.16%). **CONCLUSIONS:** IS were the majority of total strokes in the study and represent a high burden on health care system and society, mainly due to hospitalization and informal care costs. Intrahospital costs were double than the published DRGs in Spain. Other diseases like Alzheimer or dementia represent a lower burden than stroke.

PCV59

FOLLOW-ON HEALTH CARE COSTS IN PATIENTS WITH ACUTE CORONARY SYNDROME (ACS)

Berger A[1], LaPensee K[2], Oster G[1]
[1]*Policy Analysis Inc. (PAI), Brookline, MA, USA,* [2]*The Medicines Company, Parsippany, NJ, USA*

OBJECTIVES: To review published estimates of post-acute-care costs over one year in patients with acute coronary syndrome (ACS). **METHODS:** Using the Medline and