confirmed that patients who had a greater improvement in 6MWD (>40m) at week 12 of the study had higher mean scores than those with lower improvement (<40m). Furthermore, patients with better functional ability according to WHO classification had higher EQ-5D utility scores than those with lower ability. **CONCLUSIONS:** Results demonstrate the positive impact of riociguat on patient-reported health status among CTEPH patients.

PCV142
EFFECT OF INTERVENTION BY COMMUNITY PHARMACISTS ON AWARENESS OF CONTINUING TREATMENT AMONG PATIENTS WITH HYPERTENSION
Shoji M[1], Okada H[2], Onda M[1], Sakane N[2], Nakayama T[3]
[1]*Osaka Univercity of Pharmaceutical Sciences, Osaka, Japan,* [2]*National Hospital Organization Kyoto Medical Center, Kyoto, Japan,* [3]*Kyoto Univercity, Kyoto, Japan*
OBJECTIVES: Hypertension has few subjective symptoms and its treatment must be continued long term, as patients may stop visiting the hospital regularly and give up on lifestyle improvements. Therefore, the effective and brief coaching-style intervention program is essential in community pharmacies. The objective of this study was to investigate the effect of intervention by community pharmacists on the awareness of continuing treatment among patients with hypertension. **METHODS:** This study was designed as a cluster-randomized controlled trial with a 3-month intervention period. The subjects comprised adult patients with essential hypertension who had been taking antihypertensive medication for at least 3 months. Patients in the intervention group underwent a motivational interview with a pharmacist lasting around 3 minutes each time they received a prescription, while those in the observation group were provided with usual care. Both groups' patients were provided with a home blood pressure monitoring device and pedometer. The study outcome was awareness of the continuation of regular hospital visits, healthy diet, and appropriate exercise, rated on a 10-point scale from "Extremely important" to "Not at all important." **RESULTS:** Responses were obtained from 114 patients at 55 pharmacies (intervention group: 28, observation group: 27). that had enrolled in the study A comparison of awareness before and after intervention showed that only awareness of regular hospital visits had improved in the observation group ($p = 0.03$), whereas in the intervention group, awareness of both regular hospital visits ($p = 0.04$) and appropriate exercise ($p = 0.02$) showed improvement. **CONCLUSIONS:** The findings of this study revealed that intervention by community pharmacists may contribute to raising awareness of the need to continue exercise. This result implies that pharmacist can improve patients' ability to chronic disease management.

PCV143
THE QUALITY OF LIFE IN PATIENTS 12 MONTHS AFTER AN ACUTE CORONARY SYNDROM: RESULTS FROM THE PGRX-3 REAL WORLD DATASET
Nordon C[1], Abenhaim L[2], Worsfold A[2], Amzal B[2], Rossignol M[3], Grimaldi-Bensouda L[1]
[1]*LASER Research, Paris, France,* [2]*LASER Analytica, London, UK,* [3]*McGill University, Montreal, QC, Canada*
OBJECTIVES: To measure the quality of life (QoL) of patients 12 months after an acute coronary syndrome (ACS) **METHODS:** PGRx-3 are multiusers, multi-countries, prospective Real World Datasets assembled to describe disease risk factors, burden of disease, disease management, treatment patterns and patient quality of life; they are also used for the study of the effectiveness and relative risk of medicines. More than 15 disorders have been studied with the PGRx methodology and extensive validation studies have been published. Patients are recruited by their physician in France, UK, Italy, Germany, Spain and in the US, and interviewed and/or fill a self-questionnaire. The French PGRx ACS registry has involved 218 investigators since October 2013, 90% of them being cardiologists. To date, 3725 patients have been included. The self-reported QoL was completed at 12 months, using the EQ-5D and SF-12 in a sample of 619 patients who had their follow-up visit between February and May 2015. **RESULTS:** 75% of patients were male, mean age at ACS was 67 years [SD=11], and 71% had a first-lifetime ACS. 12 months after the ACS, the mean score of EQ-5D was 0.72 [SD=0.24], the less favourable ratings were for pain and restriction in mobility, considered as "severe" in 10% and 12% of patients, respectively. Using the SF-12, 65% patients rated a "good" health, 80 (47%) had limited mobility, and 70% declared some pain interfering with normal life. **CONCLUSIONS:** 12 months after ACS, patients declared a rather good QoL, despite daily limited mobility, pain and discomfort.

PCV144
A SYSTEMATIC LITERATURE REVIEW ON THE IMPACT OF THERAPEUTIC INTERVENTIONS ON QUALITY OF LIFE IN SYSTOLIC HF RANDOMIZED CLINICAL TRIALS
George A[1], Deschaseaux C[2], Agrawal R[1], Heinrich L[2], Ghosh P[1]
[1]*Novartis Healthcare Pvt Ltd, Hyderabad, India,* [2]*Novartis Pharma AG, Basel, Switzerland*
OBJECTIVES: Systolic heart failure (HF), is a progressive condition carrying a high risk of mortality, hospitalisation and having a significant detrimental impact on quality of life (QoL). Current therapies indicated for use in this patient population demonstrated beneficial effects on QoL, however the magnitude of effects remain debatable. This review was performed to identify QoL instruments (disease specific and generic) used in systolic heart failure, to estimate the impact of various pharmacological interventions. **METHODS:** Publications resulting from Randomised controlled trials (RCTs) as well as post-hoc analysis of RCTs from 1996 to October 21, 2014 were selected using pre-defined inclusion criteria. Critical appraisal of trials was performed using the NICE risk of bias tool. **RESULTS:** A total of 37 publications from 33 RCTs met the inclusion criteria. The main HF-specific QoL instruments used were the Minnesota Living with Heart Failure Questionnaire (MLHFQ) (8,004 patients) in 19 trials and the more recent Kansas City Cardiomyopathy Questionnaire (KCCQ) (12,101 patients) in four trials. The generic EQ-5D (VAS) was used in three trials whereas SF-36 was used in two trials. Four studies also reported correlations between end point changes in morbidity or mortality and change in QoL. Significant changes in QoL were found in 9 active and 5 placebo-controlled trials respectively, which could be attributed to various pharmacological interventions. The critical appraisal concluded that the studies were of moderate quality. **CONCLUSIONS:** The majority of included RCTs used HF-specific questionnaires, to measure QoL. From 2009 onwards, the use of KCCQ increased compared to MLHFQ and KCCQ was administered to a comparatively larger study population. Thus, QoL data retrieved from studies using KCCQ are considered to be more representative of the real world. The inconsistency in reporting of QoL results in RCTs limited comparison of the treatment impact on QoL

PCV145
APHERESIS TREATMENT IN GERMAN PATIENTS WITH SEVERE HYPERCHOLESTEROLEMIA - A PSYCHODRAMA MARKET RESEARCH
Schmid T[1], Michailov G[2]
[1]*Amgen GmbH, Munich, Germany,* [2]*Amgen GmbH, München, Germany*
OBJECTIVES: In Germany, apheresis is indicated for patients on maximally tolerated lipid lowering therapy (max LLT) with uncontrolled low density lipoprotein (LDL) levels over 12 months. The current application process restricts patients' access to apheresis although no other treatments are available. Despite its burdensome nature and invasiveness, this procedure offers an additional LDL lowering when max LLTs are insufficient. This psychodrama market-research aimed to understand the patients' perception of apheresis and how apheresis affects daily living. The core concept is to 'ask without asking'. **METHODS:** Eligible patients had severe hypercholesterolemia, ≥1 cardiovascular event, apheresis, and were ≤72 years of age. The conducted workshops focused on the following topics: 1) disease perception 2) perception of apheresis 3) anticipated impact of new therapies on patients' quality of life (QoL). Psychodrama techniques were used to investigate and gain insight into the perceptional and emotional world of the patients. A QoL questionnaire (SF-36) was applied before (QoL with apheresis) and after the workshop (imagination of QoL with a new therapy option). **RESULTS:** Four workshops took place in October 2014 in Munich (n=2), Berlin and Frankfurt. The average age was 63 years (N=26) and patients had broad experience with apheresis. The assessment on the disease perception led to feedbacks such as, "It doesn't hurt and that is bad!", "My whole life changed" or "The fear is in my head!". Perception of apheresis was ambiguous revealing cons ("invasive", "time-consuming") and pros ("life-saver", "effective"). The SF-36 evaluation demonstrated an increase in the overall QoL state for the majority of patients (n=20). CONCLUSIONS: Apheresis is seen as burdensome but necessary. Without alternatives, apheresis is considered important by patients, however, patients are eager to try new therapies offering more efficacious disease control and thereby avoidance of apheresis.

PCV146
A DISCRETE CHOICE EXPERIMENT (DCE) TO ELICIT PREFERENCES FOR ATTRIBUTES OF A BEDSIDE PHARMACOGENETIC TEST – PRELIMINARY RESULTS
Bereza BG[1], Pechlivanoglou P[2], Coyle D[3], Wells G[4], So D[4], Grootendorst P[1], Papadimitropoulos M[1]
[1]*University of Toronto, Toronto, ON, Canada,* [2]*THETA (Toronto Health Economics and Technology Assessment Collaborative), Toronto, ON, Canada,* [3]*University of Ottawa Faculty of Medicine, Ottawa, ON, Canada,* [4]*University of Ottawa Heart Institute, Ottawa, ON, Canada*
OBJECTIVES: To quantify preference weights (including willingness to pay = WTP) for attributes of a bedside pharmacogenetic test for the CYP2C19*2 allele to permit personalization of antiplatelet therapy in patients with acute coronary syndromes (ACS). **METHODS:** This internet-based survey tool comprised of: patient demographics, a decision board and choice sets. Context was provided by way of a decision board that offered three treatment alternatives for hypothetical ACS patients, one of which offered pharmacogenetic testing. Respondents choosing the pharmacogenetic option were provided with 8 choice sets; each with two alternatives. Each alternative consisted of three attributes, each with three levels. Attributes (levels) included: how sample was taken (cheek swab, finger prick or draw blood); turnaround time for results (1 hour, 3 days, 1 week), and cost expressed as an additional annual insurance premium in Canadian dollars (C$)(C$0, C$2, C$10). A full factorial design was implemented. A conditional logit regression model was used to analyze the responses. The survey was disseminated to randomly selected respondents in Ontario (Canada), stratified by age, gender and education. **RESULTS:** Results are generalizable to the Ontario population. Among 328 respondents who completed an informed consent for the survey, 219 chose the pharmacogenetic test option providing 3472 observations. Exponential coefficients (standard errors) and p values are as follows: Turnaround; 1 week = 0.089 (0.13) $p<0.0001$, 3 days = .243 (0.113) $p<0.0001$, Sample extraction; finger prick = 1.043 (0.104) $p=0.683$, cheekswab = 1.140 (0.100) =0.19, cost = 0.63127 (0.032) $p<0.001$. WTP in additional annual insurance premiums is C$5.18 for one hour over a 7 day turnaround time and C$3.06 over a 3 day turnaround. **CONCLUSIONS:** Respondents were 11 times as likely to choose a 1 hour turnaround time, and tended to prefer the cheekswab method. An incremental WTP was observed for more expedient sample turnaround time.

CARDIOVASCULAR DISORDERS – Health Care Use & Policy Studies

PCV147
IMPACT OF HEART FAILURE ON HOSPITAL ADMISSIONS AND MORTALITY IN SPAIN IN THE PERIOD 2009-2013
Obradors M[1], Figueras M[1], Villoro R[2], González-Domínguez A[2], Merino M[2], Hidalgo A[3]
[1]*Novartis Farmaceutica S.A., Barcelona, Spain,* [2]*Weber, Economía y Salud, Majadahonda, Spain,* [3]*University of Castilla-La Mancha, Toledo, Spain*
OBJECTIVES: Heart failure (HF) is an important public health problem that depletes a large quantity of health resources. Around 2% of the adult population in developed countries suffers from HF. The high prevalence of HF in Spain, around 5%, is mostly determined by its population's progressive ageing. This study describes the impact of HF on hospital admissions, length of stay, hospitalization

costs and age adjusted mortality in Spain in 2009-2013. **METHODS:** Statistical mining of data stemming from the Spanish Ministry of Health´s heart failure related hospital admissions and mortality databases, which are classified by International Classification of Disease (ICD) or Diagnosis Related Group (DRG) codes: ICD9: 428 (Heart Failure), ICD10: 0907 (Heart failure), DRG: 127 (Heart failure and Shock) and DRG: 544 (Congestive heart failure and cardiac arrhythmia) for the period 2009 to 2013. **RESULTS:** Hospital admissions due to HF increased 14.39% from 2009 (89,126) to 2013 (101,953). Yet, the average length of stay in a hospital decreased by 7.84% (9.17 vs. 8.45 days). The average cost per admission decreased by 9.74%, from €4,434.50 in 2009 to €4,002.44 in 2013. The total cost increased from €395 MM to €408 MM. In regards to age, in 2009, the total cost for those under 40 years amounted to €3.5 MM, €42 MM for people aged 40-64, €72 MM for those aged 65-74, €165 MM for 75 years to 84 and €113 MM for 85 years or older. A positive trend was observed in the total cost of the eldest patients, reaching €131 MM in 2013. Age-adjusted mortality rate decreased from 19.21 to 15.90 per 100,000 inhabitants. Total number of deaths also decreased from 17,592 in 2009 to 16,888 in 2013. **CONCLUSIONS:** The total cost of hospital admissions for HF increased in 2013 compared to 2009, while mortality experienced a slight decrease.

PCV148
ANALYSIS OF PRIMARY AND SECONDARY APR-DRG CODES OF AN ISCHEMIC STROKE ADMISSION

Dewilde S[1], Annemans L[2], Thijs V[3]
[1]*SHE & UGent, Brussel, Belgium,* [2]*University of Ghent, Ghent, Belgium,* [3]*KULeuven, Leuven, Belgium*

OBJECTIVES: To investigate the factors influencing the Severity of illness index of the All Patient Refined DRGs (APR-DRG) classification of patients experiencing an ischemic stroke. **METHODS:** We conducted a retrospective analysis of ischemic stroke patients classified as "APR-DRG 045: CVA & Precerebral Occlusion with Infarct" between 2005-2007 admitted to the leading teaching hospital in Belgium. Each admission was assigned a primary diagnosis, followed by one or more secondary diagnoses. Based on an algorithm combining these diagnoses a SOI level was assigned to each hospitalization, informing the payment/reimbursement for each admission. This classification allows for the relative comparison of patient subgroups within each APR-DRG and severity subclass, and was designed to reflect the relative resources required for treatment, enabling for the casemix adjustment of the payment/reimbursement system. **RESULTS:** 1,107 stroke admissions were recorded during the study period, distributed across four SOI categories: 2% minor, 44% moderate, 36% major, 18% severe. No relationship was found between the type of primary diagnosis and the SOI level. Of the 1,407 secondary diagnoses assigned in the dataset, only half (783) were specific to one single SOI category; all others were found in 2, 3 or even 4 SOI levels. However a significantly positive relationship was found between the average number of secondary diagnoses assigned per patient and the SOI: on average 5.9, 11.3, 19.4 and 25.6 secondary diagnoses were allocated for increasing levels of SOI. Secondary diagnoses such as MI, diabetes, atrial fibrillation, hypertension, hypercholesterolemia, smoking, atherosclerosis were individually not linked to more severe levels of SOI, however the combination of these factors did affect a patient's SOI. **CONCLUSIONS:** Payment/ reimbursement decisions for patients experiencing an ischemic stroke will be based on the resources necessary to manage a case mix of secondary diagnoses rather than be informed by the severity of the stroke.

PCV149
SIMULATING THE IMPACT OF A CARDIOVASCULAR PREVENTION PROGRAM

Leleu H[1], Limbe M[2], Femery V[2], Blachier M[1]
[1]*PUBLIC HEALTH EXPERTISE, Paris, France,* [2]*MGEN, Paris, France*

OBJECTIVES: MGEN, a health insurance covering mainly teachers in France, is looking to set up a coronary heart diseases (CHD) prevention program in order to reduce CHD mortality, morbidity, and associated costs. However, due to the particular demographics of the covered population, the expected benefits of the program, given the programs parameters, is difficult to foresee. Yet, an estimation of the program effectiveness could help promote the programs importance to decision makers, motivate individuals responsible for the program implementation and encourage patient enrolment. Thus, the objective of this study was to construct a tool that could simulate the effectiveness of CHD prevention based on the demographical characteristics of the target population. **METHODS:** We constructed a micro-simulation model that simulated a cohort of individuals participating in a CHD prevention program. Individuals' baseline characteristics were based on age and sex distribution. CHD risk factors including systolic arterial pressure, body mass index, total cholesterol, smocking, diabetes, stroke and CHD prevalences were fitted by age and sex for the French population. Effectiveness values for CHD prevention programs were based on the COCHRANE review. One-year and ten year CHD mortality were estimated from SCORE and 10 years CHD events from FRAMINGHAM. **RESULTS:** Implementing a prevention program in a population of a 100 000 representative of the insurance population with a 27% participation rate reduced CHD mortality by 9 after 1 year. The number needed to treat (NNT) was 2988. Excluding individuals with no CHD risk factors reduced NNT to 1571 with a similar mortality reduction. Further excluding participants of 44 years or less reduced NNT to 947 and double the mortality reduction. **CONCLUSIONS:** The effectiveness and efficiency of a CHD prevention program is sensitive to the target population. Simulation tools are useful to decision makers to better specify the target population in order to optimize the program's efficiency.

PCV150
A TRIPLE AIM FRAMEWORK FOR THE PERFORMANCE ASSESSMENT OF DISEASE MANAGEMENT PROGRAMS

Verbeek NA[1], Franken M[1], Tsiachristas A[2], Koopmanschap MA[1], Rutten-van Mölken MP[1]
[1]*Erasmus University Rotterdam, Rotterdam, The Netherlands,* [2]*University of Oxford, Oxford, UK*

OBJECTIVES: A structured and comprehensive assessment of disease management implementations is not straightforward due to the broadness of the interventions and the various evaluation possibilities. The aim of this study was to develop a comprehensive framework for outcome measurement of disease management programs based on the triple aim framework of the Institute for Healthcare Improvement to facilitate future performance assessment using multi-criteria decision analysis (MCDA). **METHODS:** Based on literature review and our expertise in performing economic evaluations in disease management we identified domains of outcomes for each aim of the triple aim framework. For each domain we identified indicators to assess the performance of disease management programs. **RESULTS:** The first aim of the framework, population health improvement, was subdivided into the domains health-adjusted life years, mortality, wellbeing, health-related quality of life (HrQol), complications, symptoms, clinical outcomes, healthy behaviour, knowledge, and self-management skills. The second aim, improvement of patient experience, was subdivided into patient involvement, patient centeredness, continuity of care, coordination, communication, information systems, safety and access. The third aim of cost reductions distinguished program, medical and non-medical costs. Potential Indicators of the identified sub-criteria include the ASCOT (Adult Social Care Outcomes Toolkit) for measuring wellbeing, smoking rates and BMI (Body Mass Index) to measure healthy behaviour, the EuroQol-5D and Short Form-36 for measuring physical, mental and social HrQol, different dimensions of the PACIC (Patient Assessment of Chronic Illness Care) and CAHPS (Consumer Assessment of Healthcare Providers and Systems) for measuring patient experience and several measurement tools for measuring friction costs and costs of informal care. **CONCLUSIONS:** In designing a structured outcome-based framework for the performance evaluation of disease management programs we paved the way for future work including a comprehensive evaluation of disease management using MCDA. MCDA not only requires measurement of indicators but also weighting of their relative importance.

PCV151
ATRIAL FIBRILLATION AND ANTI-COAGULATION SERVICE RUN BY A CLINICAL NURSE SPECIALIST

Daacke I[1], Hau N[1], Williams J[2], Natarajan I[2]
[1]*Boehringer Ingelheim, Bracknell, UK,* [2]*University Hospital of North Midlands NHS Trust, Stoke-on-Trent, UK*

BACKGROUND: Annually in England there are 89,000 strokes. 18% of patients presenting with stroke are in AF at presentation, equating to some 16,000 strokes, of which 12,500 are thought to be directly attributable to AF. **OBJECTIVES:** Reduce the number of AF related strokes by optimal anticoagulation according to NICE CG 180. Provide education and support to GP practices around identification of patients with AF as well as appropriate anticoagulation. **METHODS:** In this analysis, a total of 5 GP practices ran the Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation (GRASP-AF) audit tool to identify patients diagnosed with AF. An AF nurse specialist reviewed each patient to ensure that they are on optimal anticoagulation based on clinical characteristics and NICE CG 180. **RESULTS:** A total of 374 patients have been reviewed with an average age of 77 and an equal proportion of males. The majority of patients are diagnosed with permanent AF (54%); have a CHA2DS2-VASc score between 3 and 5 (3: 18%, 4: 20%, and 5: 22%) and a HAS-BLED score of 2 (48%). The number of patients prescribed aspirin and clopidogrel has been reduced from 26% and 6%, to 8% and 3%, respectively. In addition, the number of patients treated with non-vitamin K antagonist oral anticoagulants (NOACs increased from 2% to 19% after treatment review. Patient satisfaction survey results revealed that patients are happy with the service and felt at ease discussing treatment options. **CONCLUSIONS:** Overall, 34% of patients received a revised treatment regimen based on NICE CG 180. The results indicate that despite not being recommended in NICE CG 180, a high proportion of AF patients are currently managed with antiplatelet instead of anticoagulation. In addition, a nurse specialist service redesign has the potential to optimise AF anticoagulation services, providing long-term reductions of AF-related strokes.

PCV152
NOVEL ORAL ANTICOAGULANT USE IN THE EU5: HOW ARE PAYER POLICIES AND PHYSICIAN PREFERENCES SHAPING THE PRESCRIBING LANDSCAPE?

O'Connor E[1], Cox J[1], Fletcher-Louis M[1], Ribeiro A[2]
[1]*Decision Resources Group, London, UK,* [2]*Decision Resources Group, Exton, PA, USA*

OBJECTIVES: EU5 reimbursement authorities are promoting cost-effective treatment practices against a backdrop of tightening healthcare budgets. However, label expansions for novel oral anticoagulants (NOACs) threaten to dramatically increase expenditure for the treatment of atrial fibrillation (AF), venous thromboembolism (VTE), and acute coronary syndrome (ACS). This study explores the impact of payer policies and physician preferences on prescribing for these indications. **METHODS:** In December 2014/January 2015, 252 cardiologists across the EU5 were surveyed regarding their current and expected prescribing of the NOACs for AF, VTE, and ACS. In addition, 15 payers who influence reimbursement at national/regional level were interviewed. **RESULTS:** The impact of cost-containment strategies on NOACs uptake varies across the EU5, but is most notable in Spain, where over one-third of physicians report that NOACs prescribing is severely restricted by the inspection visa system. In all countries studied, cost-containment strategies least impact AF prescribing, while the greatest impact is on prescribing of rivaroxaban in ACS. Overall, surveyed physicians report that, on average, 32-60% of their VTE patients, and 48-71% of their AF patients currently receive a NOAC. Uptake is highest in France (VTE) and Italy (AF), and lowest in the UK. By 2018, over 60% of physicians in each EU5 country anticipate increased use of rivaroxaban and apixaban for both AF and VTE. However, expected prescribing of dabigatran etexilate is more varied, and is least likely for VTE. Interviewed payers caution that pressure on physicians to prescribe cheaper vitamin K antagonists (VKAs) will likely increase, as will negotiations with manufacturers to secure lower NOAC prices are essential. **CONCLUSIONS:** Surveyed EU5 cardiologists expect to increase their use of NOACs by 2018. However,