

a patient with stroke lives and which factors most influence survival in stroke in Turkey. **METHODS:** Based on Elixhauser Comorbidity Index, data for patients diagnosed at least with stroke or 17 chronic diseases such as hypertension, diabetes, heart diseases were collected from Turkish SocSecurity Institution database between 2008 and 2013. Then with simple random sampling method, a sample of 2,113 ischemic stroke and 155 hemorrhagic stroke patients were selected. Two Cox regression models were run to identify which factors impact the survival years and how much they reduce survival for each stroke type. Finally survival months were calculated. **RESULTS:** Among dead patients, a patient with stroke lived less than a year on average. 14%, 11%, 11% and 14% percent of stroke patients died 1-2 years, 2-3 years, 3-4 years and more than 4 years respectively. In the first model the average survival month for an ischemic stroke patient was 35. Age and gender didn't change survival months statistically. Hypertension, diabetes, heart disease and nervous system diseases reduced survival months by 4, 12, 7 and 9 months respectively with 95% confidence level. In the second model a hemorrhagic patient lived 39 months on average. A patient younger than 55 experienced 10 months longer lives than a patient over 55. Gender again didn't incorporate any chance to survival. In addition, a patient with no hypertension and heart disease enjoyed 24 and 19 months longer lives respectively. **CONCLUSIONS:** In Turkey, the chance of living longer for ischemic stroke patients drops if the patients were diagnosed with hypertension, diabetes, heart disease or nervous system disease. Older patients with hemorrhagic stroke lived less, hypertension and heart disease adversely affected survival months.

## PCV159

## ANALYSIS OF STROKE STATISTICS IN TURKEY

Ozturk Y, Demir C, Gursoy K, Koselerli R  
Turkish Social Security Institution, Ankara, Turkey

**OBJECTIVES:** Stroke is a severe disease that leads one of the main causes of death and disability affecting approximately 15 million people worldwide. This study aims at analyzing summary statistics of stroke in Turkey. **METHODS:** Data was collected for the patients diagnosed with stroke from Turkish Social Security Institution database between 2008 and 2013. Prevalence, gender and age distribution of the disease were computed. Then basic statistics of each type of the disease were analyzed. **RESULTS:** Between 2008 and 2013 1.9 million people were diagnosed with stroke. Among those patients, 44% and 56% were males and females respectively. Over 6 years roughly 400 thousand diagnosed patients died and as of December 31, 2013 nearly 1.5 million people had stroke with a prevalence of 2%. The prevalence for females (2.2%) was higher than that of males (1.7%), higher for 0-74 age group but lower for 75+. The prevalence rises as age increases, 75+ population had 62, 12, 2 times higher risk of having stroke compared to 0-25, 35-44 and 55-64 age groups. In our study, stroke is divided into four subgroups: ischemic stroke, sequels, hemorrhagic stroke and unknown stroke. 84% of all cases was recorded as ischemic stroke (getting the largest share parallel to the literature), 9% as sequels, 5% hemorrhagic stroke and only 2% is unknown stroke. While 0-44 age group aggregated 13.2% of all ischemic stroke patients, the figure hiked 28.1% for hemorrhagic stroke patients. **CONCLUSIONS:** Stroke is one of the leading causes of death in Turkey and the prevalence in 2013 totaled 2% of Turkish population. Considering that Turkey is aging rapidly in spite of having a young population, the number of cases with stroke will grow in near future, signaling higher stroke related death figures if no action is taken.

## PCV160

## THE ATLANTIC DIVIDE IN CORONARY HEART DISEASE: HEALTH TECHNOLOGIES USE IN THE US AND PORTUGAL

Lobo MF<sup>1</sup>, Azzone V<sup>2</sup>, Melica B<sup>1</sup>, Bacelar-Nicolau L<sup>3</sup>, Nisa C<sup>1</sup>, Freitas A<sup>1</sup>, Azevedo LF<sup>1</sup>, Rocha-Goncalves FN<sup>1</sup>, Resnic FS<sup>4</sup>, Teixeira-Pinto A<sup>5</sup>, Pereira-Miguel J<sup>3</sup>, Normand ST<sup>2</sup>, Costa-Pereira A<sup>1</sup>

<sup>1</sup>Faculty of Medicine, University of Porto, Porto, Portugal, <sup>2</sup>Harvard Medical School, Boston, MA, USA, <sup>3</sup>Faculty of Medicine, University of Lisbon, Lisbon, Portugal, <sup>4</sup>Lahey Hospital and Medical Center, Burlington, MA, USA, <sup>5</sup>The University of Sydney, Sydney, Australia

**OBJECTIVES:** Coronary heart disease (CHD) treatment has seen significant improvements due to new health technologies (HT) in interventional cardiology. Health systems (HS) adopt new HT at different speed and use rates, which may become more apparent when contrasting between HS with distinct features. We characterized and compared the ability of the HS of United States (US) and Portugal (PT) to access and use new HT to treat CHD. **METHODS:** A total of 30 HT between January 1980 and February 2015, including medical devices and active substances, were identified by experts and reviewed. Approval/commercialization dates of the first medical devices models and active substances brands were abstracted using databases at the local regulatory agencies and complemented with other sources of information when necessary. Differences between dates were used for comparison between countries. We additionally performed an extensive literature review and retrieved information on use trends of these HT in PT versus US. **RESULTS:** Most medical devices reviewed were approved earlier in PT than in US (median time difference: 27 months), whereas drugs were more readily available in US (median time difference: 61 months). Furthermore, while all HT are currently approved in PT, the drug-eluting balloon, Nicorandil and Ivabradine lack approval in US. Utilization patterns vary across devices but evidence suggests that adoption in PT is sometimes deferred from approval and that the US generally reaches similar or higher utilization rates than PT. Commercialization of drugs in PT was delayed by a median of 65 months from approval. **CONCLUSIONS:** Regulatory mechanisms of approval and price controls are determinant in the type of HT available. However, other factors appear to play an important role in the diffusion of new HT. Differences in use could be explored for mutual benefit for assessing and monitoring safety and cost-effectiveness of HT between the two HS.

## PCV161

## THE ECONOMIC ASPECT OF WARFARIN PHARMACOGENETICS INTRODUCTION INTO HEALTH SYSTEM

Janzic A, Kos M

University of Ljubljana, Faculty of Pharmacy, Ljubljana, Slovenia

**OBJECTIVES:** Pharmacogenetic (PG) algorithms of warfarin dosing have been proposed as potential improvement of anticoagulation control. Despite several randomized clinical trials, the clinical benefit was not consistently proven. The objective of this study was to estimate the opportunity cost of introduction of warfarin PG testing into health system using an expected value of perfect information (EVPI) approach. **METHODS:** Previously developed cost-effectiveness model was employed to evaluate the PG algorithm-based warfarin dosing versus standard treatment. Differences in anticoagulation control, in terms of percentage of time in therapeutic range (TTR), were used to simulate thromboembolic and haemorrhagic events. The outcomes were valued in quality-adjusted life-years (QALY) and 2014 cost. Uncertainty in the model parameters was assessed using probabilistic sensitivity analysis and EVPI was estimated at a threshold of 25,000 EUR/QALY gained. **RESULTS:** In the base case, where price of PG test was 40 EUR, the ICER of genotype-guided treatment was 8.146 EUR/QALY compared to the standard treatment. When uncertainty about clinical efficacy was examined, ICER ranged from approximately 1.000 EUR/QALY to dominated strategy. Another important factor was the price of PG test. In the base case, the treatment using PG algorithm had highest expected net-benefit with opportunity loss surrounding uncertainty about clinical efficacy of 2.9 EUR per treated patient. Conversely, increasing the cost of PG test by 3 times, to 120 EUR, resulted in the highest total expected net-benefit for standard treatment. Selecting the genotype-guided treatment instead of standard therapy would result in opportunity loss of 47.2 EUR, while EVPI for standard treatment was 0.82 EUR. **CONCLUSIONS:** The price of PG test is an important factor about decision of warfarin PG introduction into health system or investment into additional clinical trials. The smaller cost of PG test means lower opportunity cost, consequentially future research should not have important impact on economic aspect of decision.

## PCV162

## DATA FRAMEWORK TO IMPROVE RELATIONSHIP IN DRUGS THERAPIES BETWEEN GPs AND HOSPITAL PHYSICIANS

Voci C, Cavana M, Vecchi E, Franchini F, Borsari M, Castanò C, Frigeri F  
Azienda Ospedaliero-Universitaria Policlinico di Modena, Modena, Italy

**OBJECTIVES:** In the prescription of pharmaceutical therapies for the chronic diseases there is the responsibility both the hospital specialist doctor and the one territorial. A responsibility that can not be distinguished by the enterprise information systems. Purpose of the study is the development of an informatic framework to implement specific training plans on the hospital's doctors in order to reduce the prescription of the ACE-inhibitors compared to the ARBs. **METHODS:** It has been used 2014 data of pharmaceutical prescriptions of ACE-inhibitors and ARBs, outpatient specialist for cardiology visits, of hospital admissions by the Polyclinic of Modena, in an observational cohort study of record linkage, identifying for each outpatient service and of hospitalization the pharmaceutical prescription 30 days later 60 days prior the hospital activity. **RESULTS:** It has been analysed 3.5 Billion outpatient prescriptions and 27.529 hospitalizations, noting that naive patients have received 51% of ACE-inhibitors, 64% of patients has changed his own therapy from ARBs to ACE-inhibitors, while 28% has a stable therapy after cardiology visits. **CONCLUSIONS:** The model has allowed to distinguish the pharmaceutical therapy accomplished by the hospital's doctors compared to the one of the doctors of general medicine, highlighting also the therapies changed by the doctors of general medicine, in the absence of a focused informative system. The new data framework will support a face to face training.

## PCV163

## ANGIOTENSIN CONVERTING ENZYME INHIBITORS PRESCRIBING PATTERN FOR DIFFERENT INDICATIONS: A POPULATION BASED STUDY

Mahmoudpour SH<sup>1</sup>, Asselbergs FW<sup>2</sup>, Souverein PC<sup>1</sup>, de Boer A<sup>1</sup>, Maitland-van der Zee A<sup>1</sup>  
<sup>1</sup>Utrecht University, UTRECHT, The Netherlands, <sup>2</sup>University Medical Centre Utrecht, UTRECHT, The Netherlands

**OBJECTIVES:** To investigate whether usage patterns differ for different indications of angiotensin converting enzyme inhibitors (ACE-inhibitors). **METHODS:** Patients older than 45 years who started ACE-inhibitor treatment between January 2007 and January 2014 were selected in the Clinical Practice Research Datalink (CPRD). Indications for ACE-inhibitor treatment were retrieved from the medical records. Stratified by indication we distinguished between continuous use, discontinued use, switch to an alternative drug, and restart, considering a 6 months' time interval between two prescription periods. Five-years persistence rates among the different indications were calculated using the Kaplan-Meier method and compared by the log-rank test. **RESULTS:** In total 276,977 patients initiating ACE-inhibitors were identified with the following indications: hypertension (56.9%), myocardial infarction (4.3%), renal failure (3.7%), heart failure (1.6%), combinations of them (17%) and none of the above (16.5%). Five-year persistence rates ranged from 44.1% for renal failure to 68.9% for myocardial infarction ( $p < 0.0001$ ). Heart failure and renal failure patients used ACE-inhibitors for the shortest period of time (average 21.8 and 21.9 months, respectively). Within the discontinuation group the percentages of switchers ranged from 35.9% for renal failure to 53.9% for hypertension (61.0% switched to an angiotensin II-receptor blocker) and for the restarter group ranged from 15.0% for heart failure to 18.1% for the group without indication retrieved. **CONCLUSIONS:** Dependent on the indication the rates of ACE-inhibitor discontinuation differ. Patients with renal failure are most likely to discontinue treatment.

## PCV164

## TRANSITIONING FROM GENERIC TO PROTECTED BRAND DRUG IN PATIENTS WITH DM, HYPERTENSION AND HYPERLIPIDEMIA

Shimizu S

Institute for Health Economics and Policy, minato-ku Tokyo, Japan

**OBJECTIVES:** Japan has universal health coverage, and regulations concerning medical reimbursements are loose in the prescription, with physicians having a high degree of discretion in prescriptions. There is no upper limit or reference pricing, and as both physicians and patients prefer brand drugs, there has been a lack of progress