social, economic, and organizational issues that need to be addressed as the field of personalized medicine grows. As a result, improve patient care in the future.

Conclusion: Personalized medicine has the potential to revolutionize care. However, current challenges and concerns need to be addressed to enhance uptake and funding to benefit patients in the future. Clinical pharmacologists can play critical role with advising authorities on the potential value of new diagnostic and prognostic tests as well as new targeted therapies.

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Disclosure of Interest: None declared.

PP155—PREVALENCE OF GENE POLYMORPHISM SLCO1B1 IN PATIENTS WITH DYSLIPIDEMIA AND SYSTEMIC ATHEROSCLEROSIS IN RUSSIAN POPULATION

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Introduction: The statin lipid-lowering efficacy and safety varies widely among patients. This is mainly interpersonal differences can be explained by genetic factors. The purpose of this study was to investigate the prevalence of allelic variants (polymorphism) of the gene SLCO1B1 * 5 (c.521T> C, rs4149056), which encodes a polypeptide involved in the removal of statins by the liver into the bile, as well as prediction of myopathy in patients who are to the use of statins. The frequency of genotypes in SLCO1B1 in the Russian population is not known in other European ethnic groups is 8% to 20%.

Patients (or Materials) and Methods: The study is based AGL Hospital Road station Yaroslavl OJSC "Russian Railways" GBOU VPO Yaroslavl State Medical Academy, Russian Ministry of Health in 2012–2013. The study included 377 patients with dyslipidemia and systemic atherosclerosis. Of these, 226 men (59.95%) and 151 women (40.05%); the mean age was 52.58 12.21. All patients underwent determination of single nucleotide polymorphisms SLCO1B1 * 5 using reagent "SNP-Express" by real-time PCR thermocycler with IQ 5 (firm Bio-Rad).

Results: Identified gene polymorphisms SLCO1B1 * 5: heterozygous genotype s.521 vehicle in 106 patients (28.12%) and homozygous genotype CC s.521 - in 14 patients (3.71%), which is associated with an increased risk of myopathy with statins and the need for correction of the maximum dose to be lower compared with the TT genotype s.521 ("wild" type.)

Conclusion: The frequency of the heterozygous genotype (s.521TS) is 28%, and homozygous genotype (s.521SS) - 4% of patients with dyslipidemia and systemic atherosclerosis, which requires a reduction of the therapeutic dose of statins to one half and one quarter, respectively. Thus, the holding of pharmacogenetic testing can be useful for your personal selection of the dose of statin to maximize the effectiveness and safety of treatment.

Disclosure of Interest: None declared.

PP156—CYP2D6 GENOTYPES AND PREDICTION OF METABOLIC PROFILES IN THE PORTUGUESE POPULATION: CLINICAL IMPLICATIONS

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Introduction: CYP2D6 codes for a protein that is vastly involved in metabolism of various substances. Different metabolic profiles determine the processing of xenobiotics and endobiotics, thereby influencing disease risk, therapeutic efficacy and side effects, or toxicity of xenobiotics. The aim of this work was to characterize CYP2D6 polymorphisms and predict metabolic profiles in the Portuguese population.

Patients (or Materials) and Methods: A total of 300 Portuguese unrelated adult healthy volunteers were studied. Genetic analysis included allelic discrimination and copy number determination with TaqMan® probes by real-time PCR and allele duplications of CYP2D6*1, CYP2D6*2, CYP2D6*4, and CYP2D6*10 were confirmed by long PCR and PCR-RFLP.

Results: The percentages of poor and ultrarapid metabolizers found in this Portuguese population were 6.3% and 4.7%, respectively. Accordingly, is it estimated that, taking into account the number of inhabitants estimated by CENSUS 2011 (10,562,178), there are ~665,417 poor metabolizers (PM) and 496,422 ultrarapid metabolizers (UM) in Portugal. The frequency of extensive metabolizers (EM) and intermediate metabolizers (IM) is in agreement with previous studies.

Conclusion: The allelic frequencies were similar to other studies of European populations, with some exceptions, such as for CYP2D6*10, which is higher in Portuguese population and for CYP2D6*6 and duplication of *1 and *2, that present lower frequencies in the present study. After this study, we could evaluate the most important CYP2D6 variants in the Portuguese population and predict metabolic profiles. The data presented here are noteworthy for determination of the genetic variability influencing CYP2D6 activity, to improve the effectiveness and safety in the xenobiotics exposure, working also as a strong tool for clinical practice and development of individualized pharmacotherapy.

Disclosure of Interest: None declared.

PP157—CYP2C9 ALLELE FREQUENCIES AMONG THREE COSTA RICAN ETHNIC GROUPS COMPARED WITH HISPANIC POPULATIONS

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Introduction: CYP2C9 is involved in the metabolism of drugs such as warfarin, losartan, fluoxetine, and NSAIDs. The frequency of CYP2C9*2, allele causing decreased enzyme activity, has been reported to be lower in Amerindian and Admixed populations (from Cuba, Nicaragua, Ecuador, and Mexico), than in Spanish-Caucasian populations.[1,2] The aim of this study was to determine CYP2C9 allele frequencies in 3 Costa Rican ethnic groups and to compare the results with frequencies previously reported for Hispanic populations.

Patients (or Materials) and Methods: The CYP2C9 alleles (*2, *3 and *6) were analyzed by real-time-PCR among 375 healthy individuals belonging to 3 ethnic groups living in Costa Rica: Amerindians (AM; n = 193), Afro-Caribbeans (AC; n = 45) and Costa Rican Mestizo population (CRM; n = 137). These frequencies were compared with a population of Spaniards (SP n = 327) 2 previously published.

Results: The frequency of CYP2C9*2 was significantly lower in the AM (2.8%) and CRM (7.7%) than in the SP group (16%; $P < 0.05$).