physical examinations. Under-diagnosis for PAD in practice was common and it might have under-estimated PAD prevalence.

**CONCLUSIONS:** Previously reported PAD prevalence varies depending on clinical presentations, different screening tools, and the distribution of risks for PAD. Understanding of and effectively adjusting for these factors may be helpful to appropriately interpret and utilize the study results for future research.

**ESTIMATING THE BENEFITS OF ANTIHYPERTENSIVE THERAPY: AN ASSESSMENT OF PULSE PRESSURE**

Grover SA1, Brewer C1, Coupal L1, Zowall H1, Pradhan AA2

1McGill University, Montreal, QC, Canada; 2Bristol-Myers Squibb Pharmaceuticals Group, Montreal, QC, Canada

**OBJECTIVES:** Recent analyses suggest that pulse pressure is an important and independent risk factor for cardiovascular disease. Accordingly, pulse pressure may also be an important variable for inclusion in economic analyses of hypertension therapy. We therefore analyzed the relationship between pulse pressure and cardiovascular events after adjustment for other risk factors to determine if pulse pressure is an explanatory variable in the treatment of hypertension. We then evaluated the importance of pulse pressure as an explanatory variable in the treatment of hypertension.

**METHODS:** Using multivariate analyses and data from the Lipid Research Clinic Cohort, we examined the association between specific blood pressure measures and cardiovascular death after adjustment for age and other risk factors. We then compared the goodness of fit (GOF = [observed events–expected events] 2) of various Markov models to forecast the results of randomized clinical trials of hypertension therapy using single blood measures or combinations of measures.

**RESULTS:** Pulse pressure is a strong univariate risk factor for coronary and cardiovascular death. Both pulse pressure and diastolic blood pressure were independent (p < 0.05) risk factors with a significant negative interaction between increasing age and diastolic blood pressure and a positive but non-significant pulse pressure x age interaction. In Markov model simulations, the model including diastolic and pulse pressure better approximated (GOF = 91) the observed outcomes in five clinical trials compared to either systolic, diastolic or pulse pressure alone (GOF = 208, 375, 706 respectively).

**CONCLUSION:** Pulse pressure is a significant independent risk factor for cardiovascular events that increases in relative importance with increasing age. When pulse pressure is added to a Markov model with diastolic blood pressure the results of clinical trials are more accurately forecasted. Economic analyses of hypertension therapy may be enhanced by considering blood pressure changes other than only systolic or diastolic in isolation.

**MODELING ON THE STOCHASTIC FRONTIER: COST OF TREATMENT FOR ACUTE DECOMPENSATED HEART FAILURE**

de Lisovery G1, Steir DM1, Ciesla G1, Strausser B1, Burger AJ1

1MEDTAP International, Bethesda, MD, USA; 2Eureka Research Inc, San Francisco, CA, USA; 3Scios Inc, Sunnyvale, CA, USA; 4Beth Israel Deaconess Medical Center, Boston, MA, USA

**OBJECTIVES:** Cost of treatment for patients with the same diagnosis can vary enormously due to differences in comorbidities, practice patterns, and outcomes of care. We sought to incorporate this variability in a model projecting the results of clinical trials to community practice.

**METHODS:** We modeled an episode of care for persons hospitalized due to acute decompensated heart failure and urgently treated with either nesiritide or dobutamine. Patient characteristics and probability of significant clinical events (cardiac arrest, sustained and non-sustained ventricular tachycardia, hypotension, vomiting, readmission and death during follow-up) were based on pooled analysis of two completed clinical trials. The cost of a hospital admission was derived from a subset of records from the 1997 HCUP hospital database for discharges with similar demographic and clinical features (n = 57,223). Regressions were estimated for equations explaining 1) hospital length of stay as a function of patient attributes and specified clinical events; 2) the cost of the admission as a function of patient attributes, clinical events and predicted length of stay (LOS). For each of 5000 simulated patients, the model first stochastically generates new sets of regression parameters using the means and standard deviations of the original parameter estimates. Next the model predicts patient demographic characteristics and incidence of clinical events. The vector of patient attributes is applied to the vectors of regression parameters to predict LOS and then cost as a function of predicted LOS.

**RESULTS:** This approach preserved distributional characteristics of the original HCUP data (e.g. model predicted cost of admission vs. HCUP: mean 14,807 vs. 14,666; skew 2.94 vs. 3.16; kurtosis 10.03 vs. 11.43) while enabling us to differentiate study drugs based on incidence of clinical events.

**CONCLUSIONS:** The model yields robust estimates of cost. Confidence intervals surrounding point estimates offer decision-makers a reliable basis for assessing potential financial impact and uncertainty surrounding adoption of the treatment intervention.

**VALIDATION OF COST ESTIMATION TECHNIQUE FOR HOSPITALIZATIONS FOR USE IN MULTINATIONAL ECONOMIC EVALUATIONS**

Reed SD1, Friedman JY1, Gnanasakthy A2, Schulman KA1

1Duke Clinical Research Institute, Durham, NC, USA; 2Novartis Pharmaceutical Corp, East Hanover, NJ, USA