statis mono-therapy. Overall 55% of the patients were at target (56% of PP and SP patients and 54% of MS patients). Multivariate analyses of the patient/physician questionnaire from 7 countries that contributed to the complete dataset showed that non-adherence to LDL intake was an important determinant for not reaching LDL-C targets (OR: 0.57; [95% CI, 0.48–0.91]).

CONCLUSION: More than 40% of European patients using LDL are not on target for LDL-C. Measures to increase adherence may have significant impact to reach LDL-C targets.

CARDIOVASCULAR DISEASE—Methods and Concepts

METHODS USED

MODALITY ARE HIGHLY DEPENDENT ON THE
AND COSTS OF MEDICATION, PTCA AND CABG TREATMENT
MODALITY ARE HIGHLY DEPENDENT ON THE
METHODS USED

RESULTS:

In real life patients are not randomly assigned to the study groups. Thus, the results of reality may be biased by confounders and heterogeneity. Unsuitable propensity score estimators (PSEs) and explanatory techniques, which are used to control for observed confounders, may also bias the results. The PSEs, popular explanatory analysis techniques and the outcomes of acute coronary heart disease (ACHD) are assessed here. METHODS: A total of 171 Finnish ACHD patients underwent medication, percutaneous transluminal coronary angioplasty (PTCA) or coronary artery bypass grafting (CABG). In a prospective 3-month period, demographics, coronary angiography results, costs and 15D-based quality of life were collected. Various multinomial methods including multinomial logistic (MLRA), stereotype logistic and nested logistic regression analysis as well as naive Bayes classifier was used to elicit the best PSE using the patients in the data. Ordinary least squares (OLS) RA with and without ln-transformations as well as generalized linear models (GLM) were used for the explanatory RA. Multiple measures (e.g. probability, likelihood, AIC, BIC, deviance, R2, RMSE, RESET and link-test) ranked the techniques. ACHD outcomes were reported using unadjusted, adjusted and PS adjusted estimation. RESULTS: Generally, the best PSE in this study was MLRA—one additional marker was the fulfillment of independence of irrelevant alternatives (IIA). In explanatory analysis, OLS worked well for the QALY effectiveness estimates, which ranged −0.053—0.031 for medication, −0.013–0.009 for PTCA, and 0.010–0.036 for CABG depending on the use of adjustment/PSE. The ln-transformed OLS gave the best fit for cost data. The Duan-smoothed estimates for the maximum cost difference were 4.6% for medication, 0% for PTCA, and 14.1% for CABG depending on the use of adjustment/PSE. CONCLUSION: The analyses of different PSEs and explanatory models offer tools to assess the fitness of the models. Observational studies should be adjusted, favorably using PSE. Thus, the sensitivity analysis of PSEs is important.

PCV69

SIMPLE SENSITIVITY ANALYSIS TO ASSESS THE IMPACT OF ROUNDING OF BLOOD PRESSURE MEASUREMENTS ON ESTIMATES OF CONTROL RATES

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OBJECTIVES: Clinicians have a strong tendency to round blood pressure (BP) readings, particularly to the closest multiple of ten, even when using precise digital devices. This poses a challenge for classifying patients as controlled in economic evaluations when values fall on the boundary of the definition (e.g., 140/90 mmHg), since including or excluding the boundary values will over- or under-estimate control rates. We describe a simple sensitivity analysis to gauge the impact of rounded readings.

METHODS: The method attempts to correct the excess number of values ending in zero by redistributing these in the 135–144 mmHg range around the observed value. Thus, a value of 140 mmHg is replaced by a new hypothetical measurement drawn randomly between 135–144 mmHg. The correction is made for 90% of observations falling on the boundary since 10% would naturally be expected to end in zero. We illustrate the method with simulated data and validate by comparing the proportion below the threshold with the true, the rounded and the corrected BPs. The correction was applied to data from an ongoing study of a hypertension control education program. RESULTS: A sample of 1000 random systolic BPs was generated with mean 155 and variance 30; these “true” data were then distorted by rounding 40% of values (as observed in the study). The 30.8% in the true data that were controlled (<140 mmHg) dropped to 28.6% after rounding; after the correction, the proportion was 30.9%. In time-to-control (<140/90 mmHg) analyses of the study data, 34.2% of patients had controlled BP at 6 months based on the observed data. Replicating the analyses with corrected BPs yielded an estimate of 41.9%. CONCLUSION: The impact of rounding should be taken into account in analyses of BP data to minimize bias in control rates, as well as attenuation of treatment effect estimates that might result.

PCV71

AN EVALUATION OF STATIN PERFORMANCE: A BIVARIATE AND TRIVARIATE SELECTION RULE APPROACH

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OBJECTIVES: To evaluate the performance of statin medications from a retrospective set of prescription and lab data. METHODS: A high-risk, hyperlipidemic population from a large western US integrated health plan was screened to identify patients with a six-month period of anti-hyperlipidemic abstinence prior to an initial statin, with at least one subsequent LDL-C measurement following a minimum four-month period. Statin treatment effect was evaluated over a sub-sample of patients who did not switch or augment. Instead of discarding observations, a combination selection/treatment regression model was created. The effect of atorvastatin and typical 3rd tier statins (atorvastatin and rosuvastatin) on change in LDL-C, adherence, treatment goal attainment (<100 mg/dL), and titration was evaluated using two-step and FIML estimators. Change in LDL-C was estimated using a bivariate selection rule. For binary dependent variables, two-step FGLS and FIML (trivariate selection rule) were used. Concomitant diabetes, hypertension, age, and gender were exogenous regressors in the outcome equation. For the decision equations, distance from goal at baseline was included. Recursive and non-recursive decision equations were utilized. RESULTS: There were 2724 continuously enrolled patients meeting the initial inclusion criteria. Atorvastatin (n = 1119) was associated with an increase (significant, p < 0.05, and insignificant, depending on the model) in LDL-C relative to other statins (n = 1605). Atorvastatin was associated with a higher insignificant probability of adherence and a higher signifi-