



Scottish
Lipid
Forum



SCOTTISH LIPID FORUM & SHARP HYBRID MEETING 2021

18TH NOVEMBER 2021

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

SHARP PRIZE ABSTRACTS

Sex- and age-specific performance of the ASSIGN risk score for the prediction of cardiovascular events in the general population

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Background: The ASSIGN risk score is used to estimate a 10-year risk of cardiovascular disease (CVD) and guide preventive strategies. Little is known about the sex- and age-specific performance of ASSIGN.

Purpose: We evaluated the sex- and age-specific performance of ASSIGN in the general population using the Generation Scotland Scottish Family Health Study.

Methods: We used ASSIGN to predict the composite outcome of CVD death, coronary heart disease, cerebrovascular disease or coronary artery interventions. Calibration plots were used to compare predicted and observed outcomes in sex- and age-specific subgroups (<60-years and ≥60-years). Recalibration was performed if there were discrepancies and performance was compared before and after recalibration in each sub-group.

Results: Our study contained 12,936 individuals (61% women, average age 53-years). During a median follow-up of 9.4 years [IQR, 8.7-10.8], the composite outcome occurred in 5.2% of women and 9.8% of men. ASSIGN overestimated risk with the greatest over-prediction occurring in women, particularly in ≥60-years category. Recalibration improved ASSIGN's predictive performance in all subgroups.

Conclusions: The ASSIGN risk score overestimates future CVD with the worst performance being in elderly women. The recalibrated ASSIGN score may be a powerful tool for estimating 10-year risk of CVD in both women and men.