

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

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Purpose

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.

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

Methods

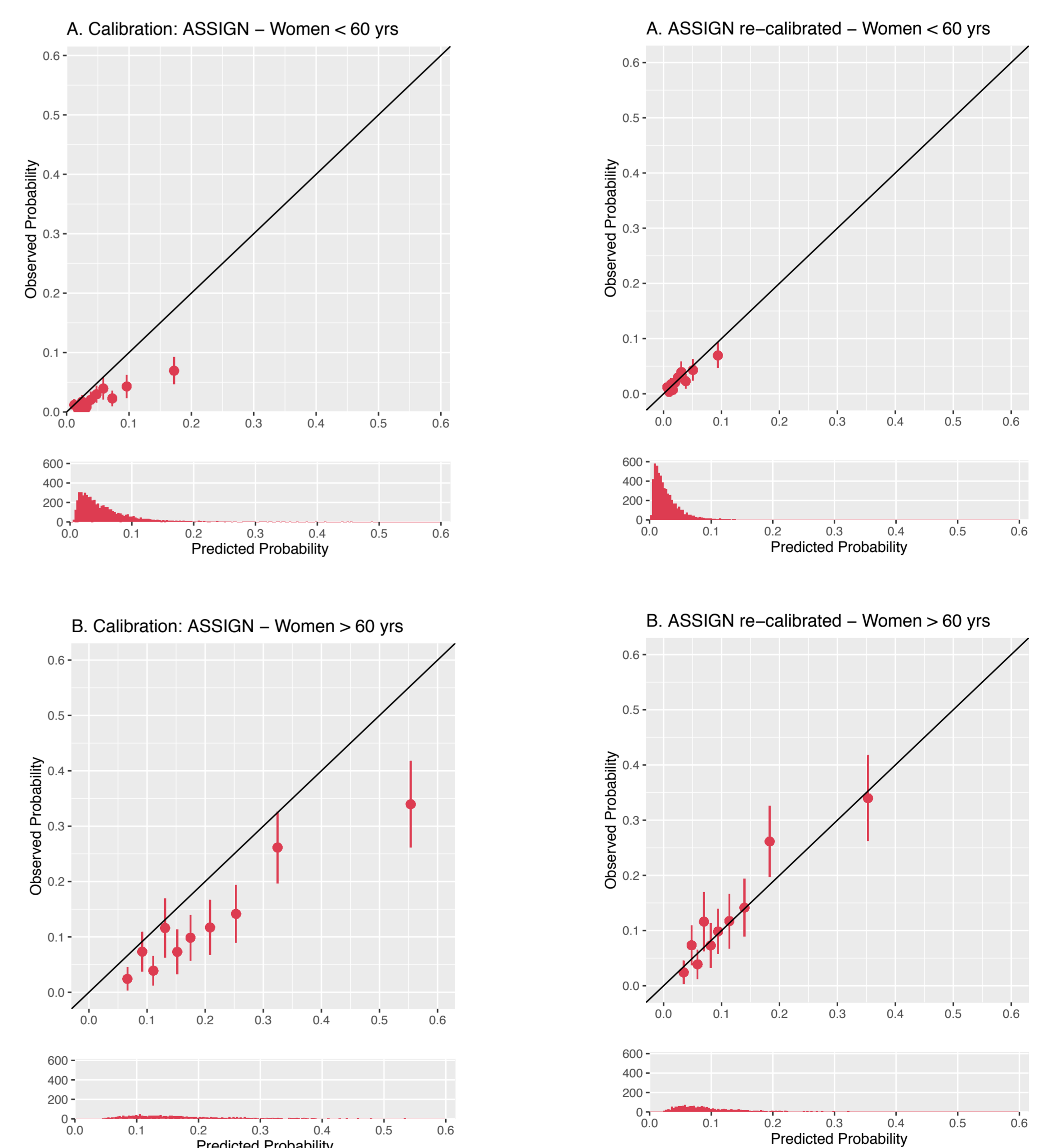
We used ASSIGN to predict the composite outcome of CVD death, coronary heart disease, cerebrovascular disease or coronary artery interventions. Calibration plots were used to compare predicted and observed outcomes in sex- and age-specific subgroups (<60-years and ≥60-years). Recalibration was performed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

Results

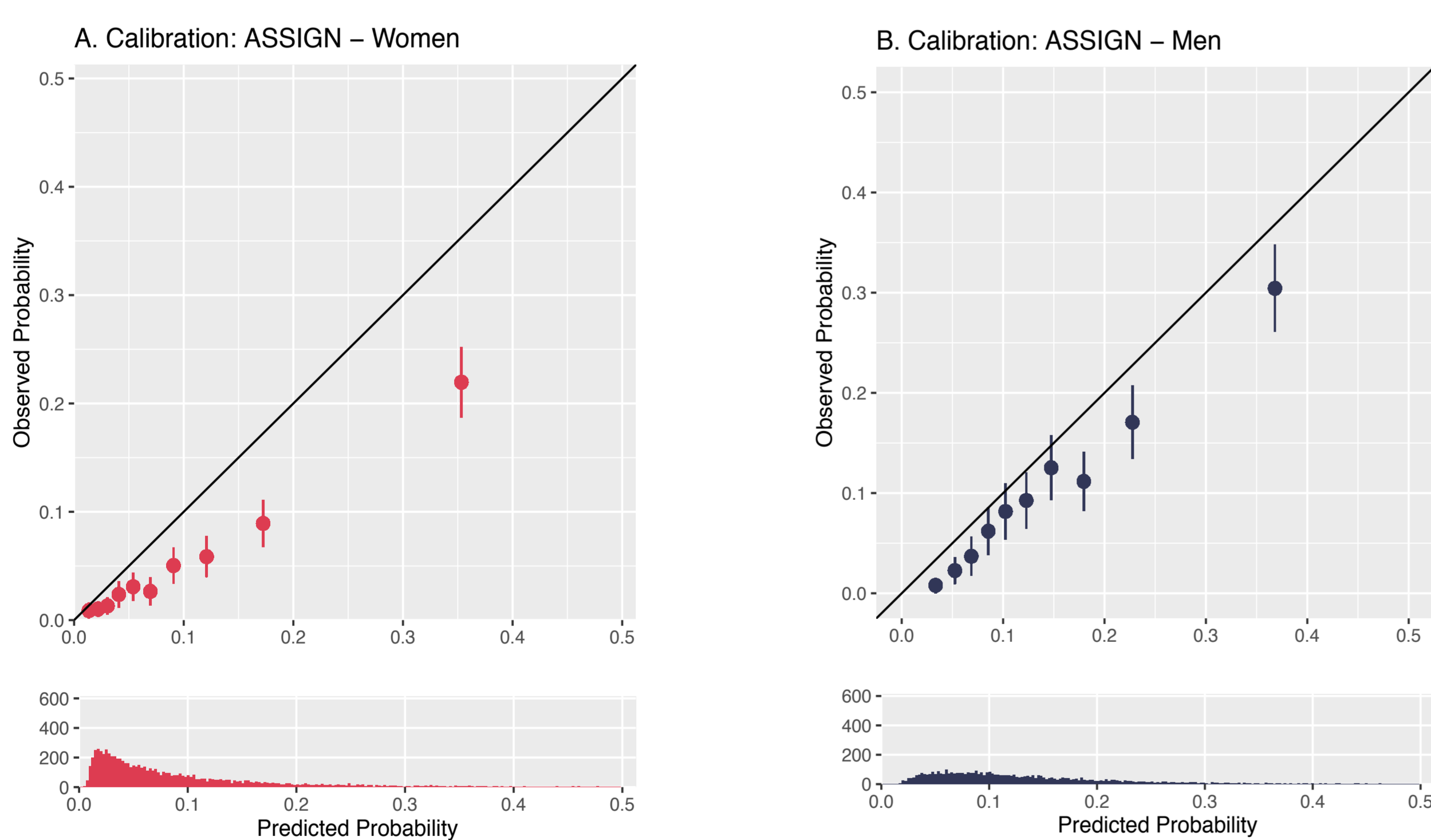
Clinical Characteristics

	Women	Men
Total Number	7865 (61%)	5071 (39%)
Age (years)	52.6 (10.6)	52.9 (10.2)
Follow-up time (years)	9.5 [8.8-10.9]	9.3 [8.6-10.7]
Composite Outcome	410 (5.2%)	496 (9.8%)

Recalibration of ASSIGN (women stratified by age)



Calibration of ASSIGN (stratified by sex)



ASSIGN overestimates risk for both sexes with the performance worst in women.

Recalibration of ASSIGN is successful in improving performance for both <60- and ≥60-year-old women.

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.

