

Comparison of national cardiac risk scores in PWH, implications for the extrapolation of the REPRIEVE Study Findings

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Background

The REPRIEVE study led to recommendations for statin therapy using risk prediction scores. This study aimed to compare the risk score and category assigned by the Australian (AusCVDRisk) score with the American (ACC/AHA CV Risk) Calculator used in REPRIEVE.

Methods

A retrospective case-control study of people with HIV (n=477 [160 who went on to develop CAD) managed at the Alfred Hospital (1996-2018) was utilised. An AusCVDRisk and ACC/AHA CV Risk Score was calculated using online calculators.

Individuals (n=128) were excluded if smoking status, HDL/total cholesterol values were missing, or if outside an acceptable age range for the calculator (<40 or >80 years). Where CKD or diabetic status was not recorded it was presumed absent. Where ethnicity was absent, individuals were presumed 'white/other'. Risk was categorised as low (<5%), low- intermediate (5-<7%), high- intermediate (7-<10%) or high ($\geq 10\%$). Correlations were determined using spearman's coefficient. The analysis was re-run removing individuals already on a statin.

Results

Participants (n=349) were predominantly male (98 %), with a mean age of 55 years. 12% were diabetic, 41% were current smokers, 27% were overweight (BMI>25), 23% were hypertensive and 61% had normal total cholesterol. 32% on lipid lowering, 14% anti-platelet and 28% anti-hypertensive therapy.

The scores were highly correlated (rho 0.893, p<0.001). AusCVD Risk produced a lower risk prediction 6.3% (S.D 3.9) than the ACC/AHA CV Risk, mean 12.5% (S.D 9.5%). The AusCVDRisk reclassified 56% of participants into a lower risk category compared to ACC/AHA CV Risk, with only 39% of individuals categorised in the same risk group. The results were unchanged when individuals already on a statin were removed.

Conclusion

Different country's risk scores cannot be directly substituted for each other when extrapolating clinical trial results to regional specific guidelines. This has implications for the threshold at which statin prescription is recommended in Australia.