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Letters QRISK validation and evaluation

Bespoke cohort studies needed

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Despite Collins and Altman's re-analysis of data from the THIN database to validate the QRISK equation for predicting cardiovascular disease,[1] adoption of QRISK in primary care is premature because key issues about the handling of missing data and the use of social deprivation indices remain unresolved.

Collins and Altman again highlight that complete data were available for just over a quarter of subjects. We appreciate that imputation methods were applied, but we question use of age-sex means of QRESEARCH data for lipid concentrations and blood pressures. This implies that QRESEARCH data were missing completely at random within age-sex strata—an assumption acknowledged as incorrect when the developers of QRISK revised their equation[2]. It also implies that observed QRESEARCH data reflect age-sex norms in the population—an assumption questioned by the developers' comparison of their data with the health survey for England.[3] We call for additional validation using data from bespoke cohort studies in which much greater attention has been paid to completeness of data.

Deprivation indices by their nature quickly become outdated, the Townsend index in particular being based on data from the 2001 census. It should be replaced with variables whose meaning is less context dependent, and which reflect underlying causes of inequalities in cardiovascular disease. For example, subcategorising non-smokers as either "ex-smokers" or "never smokers" would perhaps diminish some of the apparent predictive power of the Townsend index (since former smoking is likely to be more common among more deprived communities) and would allow QRISK to be more portable in its future use.

Notes

Cite this as: *BMJ* 2009;339:b3512

Footnotes

- Competing interests: None declared.

References

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