Life-expectancy projection by modelling and computer simulation (UKPDS 46).

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A method is described for estimating the life–expectancy of cohorts of type 2 diabetic patients, based on computer simulation from a parametric model. The method can be used where non–parametric methods, such as the Kaplan–Meier estimate, fail due to lack of the data. The simulation algorithm combines observed and modelled information to estimate the life–expectancy implications of event rates observed within a study. The use of bootstrap methods to estimate confidence intervals is discussed. The methods are illustrated with results that have been previously published, without derivation, in a health economic analysis of tight blood pressure (BP) control in the UK Prospective Diabetes Study (UKPDS), and the application to other health economic analyses of UKPDS data is discussed.