

## UKPDS OM version 2: a Type 2 Diabetes Outcomes Model

The UK Prospective Diabetes Study (UKPDS) outcome model uses 89,760 patient-years of data to estimate life expectancy and cumulative costs of complications in people with Type 2 Diabetes.

Type 2 diabetes is estimated to affect 9% of adults, and it costs \$465 billion each year. With these figures predicted to rise by 50% over the next 20 years, providing Type 2 Diabetes care represents a major economic challenge for the healthcare industry.

Because of the extended timeframe over which the multiple outcomes associated with Type 2 Diabetes unfold, stakeholders frequently make use of health economic models to support evidence-based decision making related to funding allocation.

The Oxford UKPDS Outcomes Model is a computerised simulation tool designed to estimate life expectancy, quality adjusted life expectancy and the cumulative costs of complications in people with Type 2 Diabetes.

The newly released version 2 makes use of data from all 5,102 UKPDS patients who entered the trial, as well as the 4,031 survivors who entered the 10 year post-trial monitoring period. This equates to 89,760 patient-years of data, which is double the number of events in version 1.



Key new features in version 2 include:

- Additional risk factors: Albuminuria, Heart rate, WBC, Haemoglobin and eGFR
- Additional clinical events: Diabetic ulcer and CVD death
- New equations predict second events for MI, Stroke and amputation
- Supports up to 3 groups of patients in a single run and provides a summary for each group as well as group differences
- Cost / utility values can now be varied by age and sex
- Addition of therapy costs and pre and post complication costs
- Calculation of Monte Carlo Error allows simulation fine-tuning
- Can queue workbooks to run multiple unattended simulations, while parallel processing can take full advantage of up to 10 computer cores

The UKPDS Outcomes Model has already been adopted by a range of companies, government bodies and Universities, including the UK's National Institute of Health and Care Excellence (NICE) and four out of five largest diabetes drug manufacturers.



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