

European physicians overestimate life expectancy and the likely impact of interventions in individuals with type 2 diabetes

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Making a prognosis is one of the primary functions of a physician. This study aimed to determine if European physicians could make accurate prognoses of life expectancy for individuals with type 2 diabetes and if they could estimate accurately the impact of commonly used therapeutic interventions (statin therapy, antihypertensive therapy or smoking cessation).

53 internal medicine physicians from across Europe were invited to complete a questionnaire comprising 3 clinical case scenarios (see table). They were asked to indicate life expectancy for each case on a visual analogue scale, before and after a given intervention. Their responses were compared with estimated life expectancies calculated using the type 2 diabetes-specific UKPDS Outcomes Model.

The 46 physicians with median (IQR) length of time in practice of 19.5 (10-24) years who completed the questionnaire overestimated life expectancy for cases 1 ($p=0.011$) and 2 ($p<0.0001$), but not 3 ($p=0.46$), compared with calculated values. They overestimated the likely impact of the suggested interventions on life expectancy compared with model predictions for all cases ($p<0.0001$) by as much as 30%. In Conclusion: in 2 out of 3 cases European physicians overestimated life expectancy by around 30% and their estimates of the likely impact of interventions were vastly optimistic. The UKPDS Outcomes Model could be used to assist clinicians with prognostication in type 2 diabetes.

		UKPDS Outcomes model life expectancy estimate (years)	Mean (SD) physician life expectancy estimate (years)	P value	% of physician estimates >10% below Outcomes Model estimate	% of physician estimates >10% above Outcomes Model estimate
Case 1	72 year old white man, T2DM for 4 years, smoker, SBP 155 mmHg, A1c 8.8%, total:HDL cholesterol ratio 6.6, BMI 30 kg/m ² .	5.1	8.0 (4.73)	0.011	26	61
Intervention	Quit smoking	5.9	12.3 (5.24)	<0.0001	11	87
Case 2	60 year old white man T2DM for 6 years, smoker, SBP 125 mmHg, A1c 9.4%, total:HDL cholesterol ratio 3.2, BMI 27 kg/m ² .	9.3	12.2 (4.33)	<0.0001	17	63
Intervention	Reduce A1c to 6.5%	9.4	18.2 (4.90)	<0.0001	4	94
Case 3	65 year old white woman, T2DM 2 years, non-smoker, SBP 180 mmHg, A1c 8.8%, total:HDL cholesterol ratio 2.8, BMI 37 kg/m ² .	10.7	10.4 (4.08)	0.46	46	39
Intervention	Reduce SBP to 130 mmHg	10.9	16.0 (4.96)	<0.0001	11	78

Table 1: Summary statistics for difference between physicians' estimates of life expectancy and modelled estimates