# ESTIMATION OF THE ECONOMIC IMPACT DERIVING FROM BETTER MANAGEMENT OF GLYCEMIC CONTROL IN ADULTS WITH TYPE 1 DIABETES IN THE UK SETTING

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## Objective

The aim of this analysis is to estimate the cost burden associated with complications due to suboptimal control and the potential costs savings associated with instigating normoglycemia (HbA1c<7.0%) in adults with Type 1 diabetes (T1D) in the UK setting.

## Materials and Methods

An interactive probabilistic budget impact model using published risk curves based on DCCT[1, 2, 3, 4] data was developed to project incidence and progression of diabetes-related complications associated with different HbA1c levels over a 5-year time horizon in T1D. Associated costs of diabetic ketoacidosis (DKA), microvascular and macrovascular complications were derived from published literature and used to estimate the economic impact of complications in the UK setting. Based on the HbA1c distribution of the UK National Diabetes Audit data, complications costs of the T1D adults population with HbA1c≥8.5% (123 125 patients – 49.3% of total T1D) was modelled. Similarly, complications costs of this population was modelled considering normoglycemia (HbA1c<7.0%). It was assumed that the strategy aimed to achieve normoglycemia was not increasing the risk of hypoglycaemia. Hence, severe hypoglycaemic events are not taken into account.

Costs were assessed from the NHS perspective and only direct healthcare costs for hospitalization were taken into account. Cost of treatment strategy was not included.

## Results

Thanks to better HbA1c control, micro- and macro-vascular complications would be reduced from 6.8 to 1.2 per 100 patients/year (Figure 1). DKA events also would be reduced from 14.5 to 1.0 per 100 patients/year.

With the current HbA1c distribution, the estimated total costs of complications was about £799 million over 5 years (£6 496 cost per patient).

A treatment strategy able to bring the overall population to target (HbA1c<7%) would lead to potential total savings of about £687 million in complications avoided over 5 years, (£5 585 saved per patient). Over 10 years the savings per patient would be £17 504.

Savings would increase each year thanks to complication avoidance and reduced follow-up costs (Figure 2).

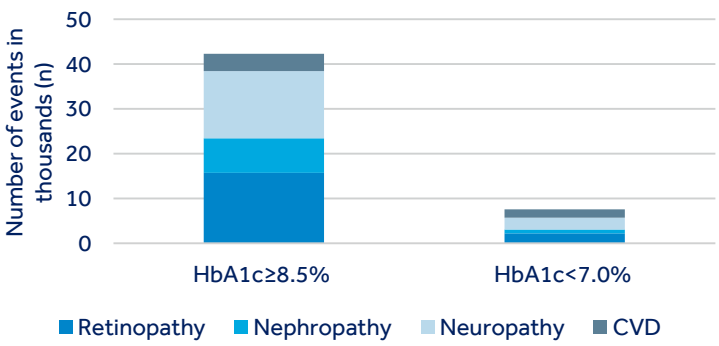


Figure 1 : 5 years cumulated number of events of micro/macrovascular complications (n)

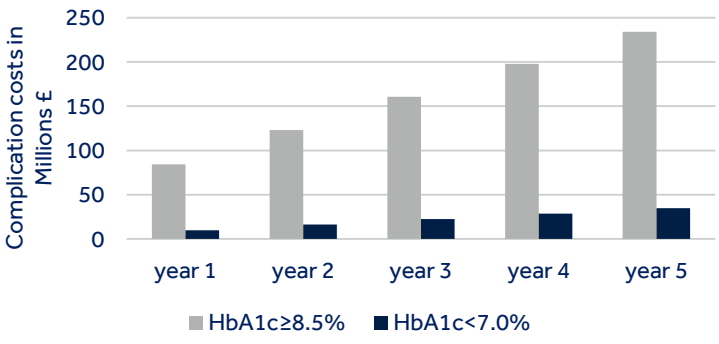


Figure 2 : Yearly expected complication costs for each population

## Conclusions

Implementation of strategies aimed to instigate normoglycemia in T1D in the UK has the potential to drive a significant reduction in complications costs. This estimate may give strategic insights to the NHS to identify the level of resources that could be invested in a treatment strategy able to normalize glycemia in T1D adults.

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