

Standardised HbA_{1c} measurements are essential for the management of glycaemia as a risk factor in diabetes

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Background and Aims: The UK Prospective Diabetes Study (UKPDS) and the Diabetes Control and Complications Trial (DCCT) have shown that the risk of developing diabetic complications is proportional to HbA_{1c} levels and that this risk can be decreased by more intensive blood glucose control. UKPDS HbA_{1c} measurements were certified as traceable to the DCCT by the US National Glycohemoglobin Standardisation Program (NGSP) providing a single reference standard for risk assessment in type 1 and type 2 diabetes. In order for this to be used effectively in routine clinical practice, laboratory and near patient HbA_{1c} measurements need to be aligned similarly.

Results: Recently published information indicates that 78% of US laboratories report glycohemoglobin results as HbA_{1c} and 42% of laboratories use methods certified by the NGSP. A survey of UK hospital laboratories in February 2000 by the Wales External Quality Assessment Scheme showed that 56% of HbA_{1c} methods used were comparable to the UKPDS. Individual HbA_{1c} results, reported from 131 laboratories participating in the UK National External Quality Assessment Scheme, for a blood sample circulated in January 2000 with an overall mean of 6.8%, varied from 5.0% to >8.6% (NGSP reference value 6.9%). The new reference method for HbA_{1c} being developed by International Federation of Clinical Chemists (IFCC) for introduction in 2002 will give significantly different HbA_{1c} values to those obtained by the UKPDS and DCCT.

Conclusions: The requirement for HbA_{1c} measurements to be aligned to those used by the UKPDS and the DCCT is now a global priority for the appropriate management of glycaemic control in people with diabetes. When any new HbA_{1c} methods are introduced, it is essential to establish the exact relationship of the results obtained to UKPDS and DCCT values and that for close liaison with all those involved in the management of diabetes.