

The use of mmol/mol is here to stay – does your clinical practice reflect this?



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In January 2008, I attended a meeting on behalf of the Royal College of Nursing Diabetes Nursing Forum and National Diabetes Nurse Consultant Group, to discuss the change from Diabetes Control and Complication Trial (DCCT) aligned HbA_{1c} assay to the International Federation of Clinical Chemistry (IFCC) aligned assays. The main implication of this change was that HbA_{1c} was no longer to be presented as a percentage (DCCT results) but were going to be reported in the IFCC format of millimoles per mole (mmol/mol).

The concerns highlighted in the meeting included the challenge of a significant culture shift for all clinicians required to interpret glycaemic control, for example, using single and double figure readings such as 6.8% and 10.2% to double and triple figure mmol/mol readings such as 51 mmol/mol and 109 mmol/mol. This challenge was acknowledged by the suggestion that a period of dual reporting should support the transition and enable both healthcare professionals and people with diabetes to familiarise themselves with the new numbers.

Education

Information leaflets for healthcare professionals and people with diabetes were produced to aid the transition and in June 2009 a 2-year period of dual reporting was commenced with a 4-month extension in October 2011. For the last 18 months, laboratory-based HbA_{1c} results have been published in mmol/mol only and all testing equipment should have been upgraded to read in mmol/mol only. But what is happening in clinical practice?

I wonder how many of you remain working with HbA_{1c} results in percentages, converting back to percentages, discussing results in percentages with no mention of mmol/mol and documenting results in percentages? Whilst I understand that many people with diabetes will be very familiar with

percentage results, the primary purpose of the dual reporting period was to educate people about the use of mmol/mol.

Over the last few months I have been to a number of presentations where speakers have continued to use percentage results with no reference to results in mmol/mol and I have read articles with results presented first in percentages with mmol/mol in brackets.

The role of the DSN

The use of mmol/mol is here to stay, therefore conversion charts should no longer be part of our clinical practice. DSNs need to lead the way in incorporating mmol/mol into clinical practice. Why do we need to know what 109 mmol/mol is as a percentage when we know it reflects very poor control?

Using mmol/mol results becomes easier when we work with some basic pieces of information (Table 1 and Table 2) and having a sound knowledge of this basic information may be the first step to feeling comfortable with explaining mmol/mol. I understand that people with diabetes

Table 1. Clinical significance of HbA_{1c} levels in mmol/mol.

HbA _{1c}	Clinical significance
≤47 mmol/mol	Is hypoglycaemia a concern?
48 mmol/mol	Excellent glycaemic control
48–59 mmol/mol	Glycaemic control potentially at target
≥60 mmol/mol	Treatment may need to be reviewed
>75 mmol/mol	Poor glycaemic control
>80 mmol/mol	Very poor glycaemic control

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Table 2. Interpreting the clinical significance of change in HbA_{1c}.

Changes in HbA _{1c} in mmol/mol	Clinical significance
Increase of 6 mmol/mol	Deterioration in control
Increase of 11 mmol/mol	Significant deterioration in control
Decrease of 6 mmol/mol	Improvement in control
Decrease of 11 mmol/mol	Significant improvement in control

often ask: “What does that mean in old numbers?” and it is unfair to deny them that information, but if we never tell them the mmol/mol results they are not going to make the transition.

The best approach

Clinical teams should decide on the best approach to encourage the universal use of mmol/mol

results among both healthcare professionals and people with diabetes. The clinical team I work with have made the decision to use only mmol/mol. We only convert to percentages when specifically asked by the person with diabetes, and also emphasise the mmol/mol result and discuss the changes in mmol/mol at each visit. When we slip up and mention percentages in clinical meetings, which we all do on occasions, one of the team corrects to mmol/mol in a lighthearted manner. All our clinical presentations are presented only in mmol/mol. Furthermore, we have noticed locally that some non-specialist healthcare professionals have started referring to HbA_{1c} results as IFCC results in error. It is important to remind them that the test is still a HbA_{1c} and it is just the units that it is measured in that is different.

Change is never easy, but as specialists in diabetes care we have a responsibility to treat and educate people with diabetes, utilising a sound evidence base. To do this we need to embrace the correct terminology and share this with the people with diabetes that we support. ■