Updated guidelines, diabetes prevention, QOF data and flash glucose monitoring

Stay abreast of the latest news that could influence diabetes care. Pam Brown, Editor-in-Chief of *Diabetes & Primary Care*, rounds up the latest national and international news and clinical research stories.

Individualising diabetes prevention in high-risk groups

Models have been developed which help to quantify the risk of progression of non-diabetic hyperglycaemia to type 2 diabetes, as well as the likelihood of regression to normal glucose levels (Herman et al, 2017). These models allow prediction of an individual's absolute risk reduction of progression or regression with lifestyle or drug therapy, allowing those with impaired glucose regulation to more clearly understand their risks and the likely benefits from therapy options. This takes us one step closer to being able to individualise diabetes prevention.

NICE updates PH38 diabetes prevention guideline

In the September 2017 review and update of the NICE PH38 guideline on preventing type 2 diabetes in people at high risk (NICE, 2012), advice has been added on prioritising those at highest risk of progression. Where the availability of places on quality-assured, intensive lifestyle programmes for reducing diabetes risk is limited, those at highest risk (fasting plasma glucose 6.5–6.9 mmol/L or HbA_{1c} 44–47 mmol/mol [6.2–6.4%]) should receive priority. Although lifestyle change programmes are cost-effective for all people at high risk of diabetes, they are particularly so in people with higher HbA_{1c} or fasting plasma glucose levels.

In addition, the advice on metformin prescribing has been updated. Metformin should be considered in those at high risk whose blood test results deteriorate despite an intensive lifestyle programme and in those who cannot participate. This is particularly recommended if their BMI is greater than 35 kg/m^2.

NICE reiterates the importance of communicating with people that they are at high risk of developing type 2 diabetes but that this progression is not inevitable and can be reduced by changing their lifestyle. Discuss their personal risk factors and ensure that, if an intensive lifestyle programme is not available, they are signposted to independent advice from health professionals.

Updates to SIGN 154 guideline on glycaemic control

The updated SIGN guideline 154 (SIGN, 2017) recommends that, in those with established cardiovascular disease, SGLT2 inhibitors (currently empagliflozin and canagliflozin) and GLP-1 receptor agonists (currently liraglutide) with proven cardiovascular benefits should be considered.

The guideline provides a new treatment algorithm summarising the benefits and risk of each drug class and recommends that medications are continued at each stage if **either** the individualised target is achieved or HbA_{1c} falls more than 5.5 mmol/mol (0.5%). Treatments should be discontinued if there is evidence that they are ineffective. This guidance differs from NICE which recommends that treatment with GLP-1 receptor agonists should only be continued if there is a reduction in HbA_{1c} of 11 mmol/mol (1%) and a 3% weight reduction over 6 months. NICE does not make any specific recommendations for stopping or continuing other drug therapies. The quick reference guide also summarises SIGN guideline 116, *Management of Diabetes*, covering lifestyle, diabetes in pregnancy and management of complications, such as cardiovascular disease, kidney disease, visual impairment and diabetic foot disease, in both type 1 and type 2 diabetes.

A more detailed review of the SIGN guidelines will be published in the next issue of the Journal.

DiRECT: Low-calorie formula diet increases remission at 1 year

First-year data from the 2-year cluster-randomised DiRECT study demonstrate that an initial low-calorie formula diet (825–850 kcal/day), followed by structured food reintroduction and a weight maintenance programme, resulted in 36 (24%) of the intervention group (n=149) achieving weight loss of 15 kg or more at 1 year compared with no participants in the control group (Lean et al, 2017; Uusitupa, 2017). Diabetes remission (HbA_{1c} <48 mmol/mol and off medication at 12 months) was achieved in 68 (46%) of the intervention group versus 6 (4%) of the control group. Remission was closely correlated to weight loss, with 86% of those losing 15 kg or more achieving it.

Along with other news from the 2017 IDF Congress, Nigel Campbell covers this in more detail on page 46 of this issue.

Flash glucose monitoring available on NHS

In the UK, the inclusion of the first flash glucose monitoring device on the NHS Drug Tariff has prompted guidance from Diabetes UK (2017), Clinical Commissioning Groups and regional teams on who is eligible to receive this technology on prescription. Initiation will be on the recommendation of specialist teams, although the actual prescribing is

likely to take place in primary care.

People who have been self-funding flash or continuous glucose monitoring are not automatically entitled to NHS provision. It is likely the devices will mainly be used by those on intensive insulin regimens or insulin pumps to help them avoid hypoglycaemia and achieve agreed glycaemic targets, but they may also be used in the short term to "troubleshoot" problems with poor control or recurrent hypoglycaemia.

It is important to remind people that flash and continuous glucose monitoring devices are not currently accepted by the DVLA for glucose testing prior to and during driving; therefore, individuals who are prescribed this technology still require test strips and a conventional meter, although fewer test strips will be required.

Readers can learn more about the use of different types of glucose monitoring technology by reading the International Consensus on Use of Continuous Glucose Monitoring (Danne et al, 2017) and other papers published this month in *Diabetes Care*.

2016/2017 QOF achievements and diabetes prevalence around the nations

In England, the diabetes domain of the Quality and Outcomes Framework (QOF) remained unchanged during 2016/17, while in Wales the majority of the points were removed and applied to cluster working, as described in this Journal previously (Brown, 2017). Early in 2017, QOF relaxation was announced in Wales, allowing practices to be paid for whichever was the better of their results between 2015/16 and 2016/17. The data recently published from Wales, therefore, represents a mixture of 2 years of results.

England

In England, diabetes prevalence in those aged >17 years increased from 6.5% to 6.7% (NHS Digital, 2017). Obesity prevalence in those aged >18 years increased overall from 9.4% to 9.7%, with more than a 5% difference between parts of London (7.7%) versus Cumbria and the North East (12.7%).

Wales

Diabetes prevalence in Wales was static at 5.9% overall, up from 4.2% in 2005/06, and the prevalence in individual clusters ranges from 4.0% to 7.7%, demonstrating that inequalities in health persist across the principality (Welsh Government, 2017). Diabetes prevalence at all ages was greater in males than females.

Northern Ireland

In Northern Ireland, payment for maintaining the diabetes registers was subsumed into core funding in 2015/16. The overall prevalence is believed to have continued to rise and is estimated at 4.7% currently (Department of Health NI, 2017).

Scotland

In Scotland, QOF was decommissioned in March 2016, with all points being retired and funding transferred to practice core funding. QOF data are no longer extracted for payment purposes. However, QOF data from 2016/17 continue to be extracted to support the peer-led GP Cluster Continuous Quality Improvement process as part of the latest GMS contract agreement.

The Scottish Diabetes Survey 2016 records a diabetes prevalence of 5.4%, varying from 4.6% to 6.3% across health boards, a narrower range than in Wales (NHS Scotland, 2017).

Diabetes screening reduces risk

A single round of diabetes screening and cardiovascular risk assessment in the ADDITION-Denmark study was associated with a 14% reduction in cardiovascular disease and a 21% reduction in all-cause mortality compared with those in the non-screening group (Simmons et al, 2017). Overall, 18% of those invited for screening attended and over the next 8 years a significant number were diagnosed with diabetes. Screening identified people with type 2 diabetes an average of 2.2 years earlier than if no screening was undertaken.

In accompanying commentaries in the same issue of *Diabetologia*, the value of screening is debated (Shaw, 2017; Simmons and Zgibor, 2017).

US drug use

In a review of over 1 million records of people with type 2 diabetes in the US initiating first-line drug therapy between 2005 and 2016 (Montvida et al, 2017), the use of metformin increased from 60% to 77%, while sulfonylurea (SU) use fell from 20% to 8%. However, for second-line therapy, initiated at a median HbA_{1c} of 68 mmol/mol (8.4%) and after a mean duration of 3.4 years, SUs remained the most popular drug choice, although their use decreased from 60% to 46%, with dipeptidyl peptidase-4 (DPP-4) inhibitors increasing from 0.4% to 21% and insulin increasing from 7% to 17%. There was a small but significant increase in the time to insulin initiation in those treated with glucagon-like peptide-1 receptor agonists (6.6 years) or DPP-4 inhibitors (7.1 years) compared to those treated with SUs (6.3 years; $P<0.05$).

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