

Latest news: Hybrid closed-loop systems; KDIGO guidance updates; and CGM in older, vulnerable people

Stay abreast of the latest news that could impact diabetes nursing.

Draft NICE recommendations on hybrid closed-loop systems set to change lives

In January, NICE released draft guidance on the use of hybrid closed-loop (HCL) systems for managing blood glucose levels in some people with type 1 diabetes in the NHS in England and Wales. HCL technology allows the user to go about daily life without the burden of monitoring whether their blood glucose levels are too high or too low.

Hybrid closed-loop systems employ a continuous glucose monitor (CGM) sensor to transmit real-time data to a body-worn insulin pump. The pump uses a mathematical algorithm to calculate how much insulin to deliver into the body to keep blood glucose levels within range, thereby reducing the risk of long-term complications of hyperglycaemia.

NICE has recommended HCL systems as an option for managing blood glucose levels in type 1 diabetes for people who are finding it difficult to manage their condition (i.e. they have an average HbA_{1c} ≥ 64 mmol/mol), despite the use of continuous subcutaneous insulin infusion, real-time CGM or intermittently scanned CGM.

The draft guidance also recommends that women with type 1 diabetes who are pregnant or planning a pregnancy should be offered the technology, as blood glucose levels are harder to manage during this time. An HCL system may only be used with the support of a trained multidisciplinary team, and if the person or their carer understands how to use it and attends a type 1 diabetes structured

education programme.

The systems are only recommended if the companies that supply them and NHS England agree a cost-effective price on behalf of the relevant health bodies. Currently, an average annual cost is estimated at £5744, which is higher than what NICE considers to be cost-effective.

Professor Partha Kar, National Specialty Advisor for Diabetes at NHS England, has thanked NICE for its recommendations and the benefits that they would bring to people with type 1 diabetes, noting that “the quality of life this technology gives to those using it is huge.”

The draft document can be read [here](#).

KDIGO updates guidance on managing diabetes in people with CKD

The KDIGO (Kidney Disease: Improving Global Outcomes) Work Group has published *Clinical Practice Guideline for Diabetes Management in Chronic Kidney Disease*, as an update to its 2020 guidelines. The group again used the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach to examine evidence and rate the strength of recommendations, and expert judgement to develop practice points by consensus.

The update includes 13 recommendations and 52 practice points for clinicians caring for people with diabetes and chronic kidney disease (CKD). With new therapies that can reduce the progression of CKD (and reduce the burden of cardiovascular disease), there is an emphasis on preserving kidney function and maintaining wellbeing, rather than replacing kidney function.

A comprehensive, tiered approach to the care of people with diabetes and CKD is advocated, with a foundation of lifestyle interventions and self-management, and first-line pharmacotherapy (such as SGLT2 inhibitors) demonstrated to improve clinical outcomes. Additional drugs with cardio- and renoprotection (such as GLP-1 RAs and non-steroidal mineralocorticoid RAs) are recommended as second-line therapy. The final tier comprises interventions to control additional risk factors, such as blood pressure, glycaemia and lipids.

A synopsis can be read [here](#), while the full guidance is available [here](#).

Challenges posed by CGM use among older, vulnerable people with diabetes

While wearable devices have shown great promise in reducing potentially fatal hypoglycaemic events, the findings of a small, new study highlight some of the challenges that the use of continuous glucose monitoring (CGM) can present for older people. The study aimed to establish whether vulnerable older adults with diabetes could use CGM technology, and explored frequency of hypoglycaemia.

Ten adults with type 1 or type 2 diabetes aged 50–85 years, who were patients at a safety-net institution in the US, were enrolled in a small pilot study. They were helped to use a CGM device and physical activity monitor, as well as smartphones and electronic medication bottles. The participants reported problems with the CGM device adhesive and often required assistance with the interpretation of graphs.

Subsequent similar testing involved 70 patients, with a mean age of 60 years. At baseline, 23% never checked their blood glucose, about half reported no regular meal routine and 67% reported previous hypoglycaemia. Almost all had used a smartphone at least twice in the week before enrolment.

During the 2-week study, 73% of participants experienced hypoglycaemia of ≤ 70 mg/dL (≤ 3.9 mmol/L), while 42% had clinically significant hypoglycaemia

of < 54 mg/dL (< 3.0 mmol/L). Nearly one third of daytime smartphone prompts went unanswered by participants, while 24% reported that CGM devices became detached.

Worry or fear about low blood glucose was reported as worse during the study by 1.4% of participants, unchanged by 79% and better by 20%.

The authors suggest that opportunities exist to improve the wearability of this technology and to decrease hypoglycaemia

frequency in this population. CGM remains a valuable tool for use in older people, and the challenges faced can often be addressed with education and training.

The full study can be read [here](#). ■

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