

Final recommendations on hybrid closed-loop systems announced by NICE

NICE announces details of its recommendations on who will be offered hybrid closed-loop technology in England and Wales, and its rollout over the next 5 years.

The much-anticipated final appraisal recommendations on the use of hybrid closed-loop (HCL) systems in people with type 1 diabetes in England and Wales have been released by NICE. Details of how the technology will be rolled out over the coming years are also outlined.

HCL systems use a mathematical algorithm to deliver insulin automatically in response to continuously monitored interstitial fluid glucose levels. They combine real-time glucose monitoring from a continuous glucose monitor (CGM) device and a control algorithm to direct insulin delivery through a body-worn insulin pump. Evidence shows that they help in the management of blood glucose levels, with fewer hypos and easier self-management.

NICE has recommended HCL systems as an option for managing blood glucose levels in type 1 diabetes for adults who are finding it difficult to manage their condition (i.e. they have an average $HbA_{1c} \geq 58$ mmol/mol or have disabling hypoglycaemia), despite the use of continuous subcutaneous

insulin infusion, real-time CGM or intermittently scanned CGM.

HCL systems are also recommended as an option for managing blood glucose levels in type 1 diabetes for children and young people, and for people who are pregnant or planning a pregnancy.

NICE states, however, that the systems are recommended only if manufacturers and NHS England agree a cost-effective price on behalf of the relevant health bodies.

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.

These recommendations are not intended to affect use of HCL systems that were started in the NHS before this guidance was published.

In order to provide the specialist support and clinical capacity to meet the recommendations, local health systems overseen by NHS England and NHS Wales will be required to roll out the technology over an extended 5-year period.

Professor Jonathan Benger, the Chief Medical Officer at NICE, feels that the use of HCL systems will be a game-changer for people with type 1 diabetes. He commented that: “By ensuring their blood glucose levels are within the recommended range, people are less likely to have complications, such as disabling hypoglycaemia, strokes and heart attacks, which lead to costly NHS care.”

If no appeals are received, the final guidance is expected to be published in December 2023. By this stage, it should be known which HCL systems will be available under the guidance, and what funding arrangements have been made.

The current appraisal document can be read [here](#). ■