

Norfolk and Waveney ICB

Implementation Plan

Title	Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes – children and young people		
Approval and Date	Medicines Optimisation Programme Board – April 2025	Review Date	April 2027

Document Control Sheet

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Name of document	Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes - Implementation Plan: Children and Young People <19 years, including pathway for new and pre-existing insulin pump users.
Version	1.0
Date of this version	March 2025
Produced by	Clinical Diabetes Teams of all three Hospital Trusts across Norfolk and Waveney ICS and Norfolk and Waveney Integrated Care Board (NWICB).
What is it for?	To explain how children and young people will be prioritised when accessing Hybrid Closed Loop Systems.
Evidence base	
Who is it aimed at and which settings?	Primary and secondary care
Consultation	
Impact Assessment:	
Other relevant approved documents	
References:	
Monitoring and Evaluation	
Training and competences	
Reviewed by:	Therapeutics Advisory Group
Approved by:	Medicines Optimisation Programme Board
Date approved:	April 2025
Signed:	
Dissemination:	To be published on KNoW
Date disseminated:	KNoW – April 2025
Review Date:	April 2027
Contact for Review:	Clinical Diabetes Teams

Title	Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes – children and young people		
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Version Control

Date	Summary of changes	Author(s)	Version Number
March 2025	New implementation plan for children and young people	Clinical Diabetes Teams at local Hospital Trusts and NWICB.	1.0

Title	Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes – children and young people		
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Norfolk and Waveney ICS

Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes

Implementation Plan: Children and Young People <19 years, including pathway for new and pre-existing insulin pump users.

Introduction

Patients will be offered Hybrid Closed Loop (HCL) in accordance with [NICE Guidance \(NG18\) : Diabetes \(type 1 and type 2\) in children and young people: diagnosis and management \(2015\)](#), [NICE Technology Appraisal \(TA943\): Hybrid closed loop systems for managing blood glucose levels in type 1 diabetes \(2023\)](#) and [NHS England Strategy: HCL technologies 5-year implementation \(2024\)](#). This document covers the implementation plan for all children and young people (CYP) below the age of 19 years.

This implementation plan was agreed between Clinical Diabetes Teams of all three Hospital Trusts¹ across Norfolk and Waveney ICS (NWICS), and with Norfolk and Waveney Integrated Care Board (NWICB).

Prioritisation

Prioritisation of the case load for start of new HCL (pump naïve) or upgrade the existing pump therapy to HCL system, will be based on clinical need and assessment. It is anticipated that most CYP who opt to go on HCL, will be offered the technology within the first two years of the 5-year HCL implementation plan. NHSE has recommended that children and those who are pregnant are given the priority in the 1st year of the implementation of HCL.

Patients will be prioritised for Hybrid Closed Loop technology in the following cohorts:

Cohort	Priority Group
Cohort 1	Children and young people (CYP) aged <6 years
	CYP 0-19 years with a diagnosis (or suspected and on waiting list for diagnosis) of: <ul style="list-style-type: none"> - Learning Disability (LD) - Autism Spectrum Disorder (ASD) - Attention Deficit Hyperactivity Disorder (ADHD) - Global Development Delay (GDD) - Other significant health-related disability
	CYP 0-19 years with a history of hypo-related hospital admissions/ hypoglycaemic seizures.
	CYP 0-19 years with history of moderate or severe diabetes distress requiring specialist psychological input.
	CYP 0-19 years with high HbA1c (>80 mmol/mol) 12 months after their diagnosis
	> 17 years of age (pre transition to adult services)
Cohort 2	All other CYP 0-19 years that are not covered within the above categories

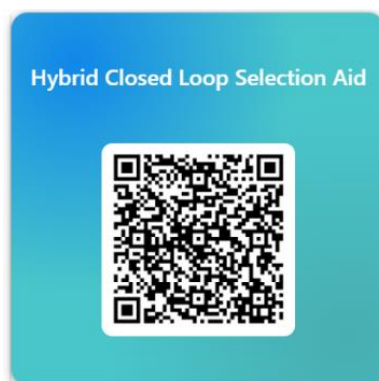
The pathway

Patient Choice:

¹ Norfolk and Norwich University Hospital (NNUH), James Paget University Hospital (JPUH), Queen Elizabeth Hospital Kings Lynn (QEHL)

Title	Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes – children and young people		
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- All available HCL systems within NHS England national cost-effective pricing framework will be offered to the CYP and their parent/guardian.
- Clinicians will discuss the most clinically appropriate choices with CYP and their parent/guardian during clinic appointments or when raised by CYP and their parent/guardian and provide them with a copy of the 'Patient Information Leaflet: Hybrid Closed Loop System Pathway'.
- The **table** below summarises salient features and some of the differences between various available HCL systems. CYP and their parent/guardian may also find it useful to review the Microsoft Forms information page <https://forms.office.com/e/TSNfhi0muz> or using the **QR code below**. They may also like to discuss with members of the diabetes team and/or have a telephone appointment with HCL system representatives and/or review the information on Digibete <https://www.digibete.org/>.



Summary of HCL systems:

	Medtronic Smartguard	Tandem Control: IQ	CamDiab CamAPS FX	Omnipod Smart Adjust
Pump type	Minimed 780g	T:slim X2	Ypsopump	
CGM type	Simplera	Dexcom G6 or G7	Dexcom G6 Freestyle Libre 3	Dexcom G6 or Freestyle Libre 2 plus. Dexcom G7 from Feb 2025
Control algorithm	On pump	On pump	On Android app	On pod
Glucose targets	Aims for either 5.5, 6.1 or 6.7 mmol/l	Aims for range between 6.3 and 8.9 mmol/l	Aims for 5.8 mmol/l (customisable from 4.4-11.0mmol/l)	Aims for range between 6.1 and 8.3 mmol/l (customisable)
Temporary glucose targets/modes	Temporary target (aims for 8.3mmol/l)	Sleep mode (aims for range between 6.3 and 6.7mmol/l) Exercise mode (aims for range between 7.8 and 8.8mmol/l)	Boost (more aggressive) Ease off (less aggressive) Slowly absorbed meals	Customisable target (up to 8 time segments in a day) Activity feature

Title	Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes – children and young people		
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Data sharing	Automatically uploads to Carelink via mobile app	Manual upload to Tidepool	Automatically uploads to Glooko via mobile app (Android only)	Automatically uploads to Glooko via mobile app (Android only) or controller via wifi
Age licensed for	7 years old or more	6 years old or more	1 years old or more	2 years old or more
Minimum weight		25kg	10kg	
Minimum insulin requirement	Total Daily Dose of 8u insulin	Total Daily Dose of 10u insulin	Total Daily Dose of 5u insulin	Total Daily Dose of 5u insulin

Process of HCL pump start:

- Once CYP have made informed choice of the system, the local teams will follow the pathway which will include creating a waiting list, pre-HCL start education, dietetic review, system specific modules, ordering pump and supplies, arranging the start date/ venue, and agreeing plan with CYP and their parent/guardian.
- The start can be face -to -face or virtual and be 1:1 or a group start. It is expected that local teams will work with industry representatives to support this.
- Arrangement for follow up will be agreed with CYP and their parent/guardian to give them a good start.
- Help may be provided through charities for those families, who cannot afford supporting technologies e.g. mobile phones or laptops.

Process for management of pump failure:

- CYP have access to OOH service as per NPDA/BPT.
- GP practice to ensure that the below items remain on repeat prescription in case of pump failure.
 - Bolus insulin e.g. NovoRapid, Fiasp, in suitable form (pen cartridge or disposable pen)
 - Bolus insulin e.g. Lantus, Tresiba, in suitable form (pen cartridge or disposable pen)
 - Blood glucose testing strips
 - Ketone testing strips

Additional information:

- Omnipod 5 (OP5): If a CYP wishes to choose OP5, but requires a pod change more frequently than every 3 days, this is outside of the NHS England cost-effective pricing framework and not supported under NICE TA 943.** The local team will have this conversation with all such CYP and explain that they may have to choose another HCL system. It is expected that all CYP who start OP5 and are above the age of 14 years should be made aware of this decision. Anyone using more than 65 units of insulin daily will potentially need a pod change more often than every 3 days. However, rarely there might be special circumstances (children with severe behaviour problems, mental health problems etc.) where the team might consider that OP5 is the best option for those CYP even if they are requiring a change more than every 3 days. All such decisions should be made by the MDT and documented.

Title	Hybrid Closed Loop Systems for managing blood glucose levels in Type 1 Diabetes – children and young people		
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- **Transition:** There are different models of transition across the ICS. OP5 will not be offered to those young people who are diagnosed after the age of 16 years as it is likely that they will need OP5 changes more often than every 3 days (and therefore outside of the NHS England cost-effective pricing framework and not funded under NICE TA 943). If the local team considers that OP5 might be the best option at that time for these young people, then a discussion should take place at start about moving to another HCL if the need to change OP5 is more often than every 3 days before transition.
- **Data:** The local hospital teams will provide data to the ICB and via national audit as per the NHSE 5-year implementation strategy for monitoring and reimbursement purposes.

Appendices:

Number	Description	Example Document
1.	Staff pump pathway for HCL	See individual trust pathway for details
2.	Patient information instruction letter	Sample letters can be found in the sharepoint folder. This can be accessed via the 'Medicine and Prescribing' section here - Referral Forms - Knowledge NoW The information is strictly for Healthcare Professionals within the Norfolk and Waveney ICS. If you do not have an nhs.net email address, please contact nwib.knowledge@nhs.net stating your organisational email address so that access can be granted.
3.	Dana Cams GP letter	
4.	Medtronic 780G -GP letter	
5.	OP5 GP letter	
6.	Ypsomed GP letter	
7.	T-Slim GP letter	

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