North East London implementation document for continuous glucose sensors for adults with type 1 diabetes

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Scope and rationale

The National Institute for Health and Care Excellence (NICE) Guidance for adults with type 1 diabetes (NG17) changed in 2022 to include access to continuous glucose monitoring (CGM) technologies for all adults living with type 1 diabetes. This is an implementation document which aims to support NG17, empowering informed choice of device for adults with type 1 diabetes, ensuring equitable access for all groups and considering clinical characteristics that may be important for the safety and effectiveness of CGM technologies.

The scope of this document is for adults with type 1 diabetes only. A companion implementation document will be undertaken for CGM access for Children and Young People living with type 1 diabetes.

This document is based upon the pan-London implementation document for continuous glucose sensors for adults with type 1 diabetes (link) and is intended to aid local implementation in North-East London (NEL) for people with type 1 diabetes.

Suggested implementation and underlying principles

- It is recognized that people with type 1 diabetes will be accessing secondary care and primary care services regularly or periodically or accessing primary care services alone. Some individuals will rarely engage with any healthcare services and may be frequent attenders to emergency services and/or have significant mental health burden.
- It is recognized that there is significant inequality in outcomes for people from non-white ethnic minorities and more deprivation.
- This suggested protocol attempts to reduce inequalities to access to technology including due to lack of digital literacy.
- It is recognized that applying stringent clinical criteria to access to technology can exacerbate inequality, and this document attempts to keep pathways simple for healthcare users and clinicians alike.

Education and risk stratification

People with type 1 diabetes should be classified according to clinician judgement into the following categories:

RED: people with type 1 diabetes who are likely to struggle with either the device or the education resources available. This includes people with type 1 diabetes that are young adults, have a learning disability or neurodiverse, have a mental health history (particularly eating disorders), from deprived backgrounds or with difficult social circumstances or issues with literacy, numeracy and/or digital literacy. These individuals ideally need a specialist multidisciplinary (MDT)* discussion and risk assessment.

AMBER: people with type 1 diabetes who would not be suitable for online resources and may need either a face to face group consultation or an individual consultation to aid safe initiation of technology. This may include people with type 1 diabetes where English is not their first language. They may need closer clinical review after initiation.

GREEN: people with type 1 diabetes who are already familiar with glucose sensing devices and would be suitable to be directed towards online resources including webinars, video and industry literature. They do not need a routine clinical review but should have a contact number/email to access if they have any issues, particularly with skin irritation etc.

[* MDT – defined as containing diabetologist, diabetes specialist nurse, dietician and ideally psychology or psychiatry]

Suggested implementation for people with type 1 diabetes regularly or periodically accessing secondary care:

1. Identify people with type 1 diabetes during routine outpatient consultation for proposed use of glucose sensing device from the list of devices (appendix 1) according to patient choice and clinical criteria. Complete the Initiation and Transfer document (appendix 2), ideally with the patient and obtain patient signature/implied consent. Use the flowchart in appendix 3 to guide the appropriate device.
2. In addition to above, consider identifying people with type 1 diabetes within the service that are clinical priorities including those with problematic hypoglycaemia, and inviting them for review. Pregnant women should be automatically prioritised and should be offered a glucose sensing device as soon as possible after pregnancy is confirmed.
3. The clinician should risk stratify the person with type 1 diabetes according to the red/amber/green classification above to ascertain the appropriate route for initiation.
4. For those identified as Red, they should be referred to a type 1 MDT to develop a risk assessment and bespoke clinical care plan/review schedule. For those identified as Amber, they may need face to face onboarding, some with an interpreter or other family members present. For those identified as Green, they are suitable for directing to online resources only and given contact details for any issues.
5. For those accessing devices from List 1, order the device through the established process for the trust via NEL ICB Blueteq® template.
6. For those accessing devices from list 2 or list 3, prescribe 2 months of sensors using either trust pharmacy outpatient prescription or FP10
7. The review schedule after initiation should be determined by the initiating clinician and would generally follow the above red/amber/green risk classification.

8. It is suggested that for people accessing devices from lists 1, 2 or 3 where the glucose sensor is being used as a stand-alone device, that this does not necessarily need to be a clinical review but can be an administrative review to ensure that device is being used (using uploaded data), and then (electronically in most cases) the Initiation and Transfer document is sent to the patient's GP to continue with the prescription.
9. For people with type 1 diabetes where the glucose sensor will interact with existing insulin pump use, they will need individualised and close clinical review over the next 2-3 months. This will overlap with future documents on hybrid closed loop therapy.
10. For those people with type 1 diabetes accessing devices from list 1, the Initiation and Transfer document can be kept as a record in the clinical records. The device will continue to be ordered through the secondary care service and will not be transferred to primary care.

Suggested implementation for people with type 1 diabetes that are accessing primary care alone:

1. As above, the person with type 1 diabetes should be classified according to the Red/Amber/Green classification as above. This may be during an annual review or opportunistic consultation.

2. For those identified as Red, these individuals would need to be either referred to or discussed with a type 1 diabetes specialist MDT for risk assessment and to develop a bespoke plan for glucose sensor initiation if deemed appropriate. If type 1 MDT is not available then these individuals could be discussed with the local specialist diabetes team through cluster meetings or advice and guidance.

3. For those identified as Amber, these individuals would need face to face support in initiating glucose sensor therapy safely. This can be through the community diabetes network with industry support if appropriate.

4. For those identified as Green, these individuals could be directed to online resources alone, with contacts for community diabetes services if problems arise.

5. At present, only devices from list 2 or 3 can be prescribed in primary care using FP10. Individuals wishing to access devices from list 1 will need to be seen in a secondary care service before proceeding.

6. All people with type 1 diabetes should be strongly encouraged to attend their local type 1 diabetes secondary care service.

References

1. Initiation and transfer of prescribing of continuous glucose monitors (CGM) for adults living with type 1 diabetes in North East London – accessed via the NEL Primary Care Portal: https://primarycare.northeastlondon.icb.nhs.uk/home/meds/medicines-guidelines-diabetes/
2. Pan-London implementation document for continuous glucose sensors for adults with type 1 diabetes. London-type-1-diabetes-CGM-access-written-pathway-LCEG-updated-August-2023.pdf (england.nhs.uk)
3. NHS England — London » Diabetes
4. Type 1 diabetes in adults: diagnosis and management; NICE guideline [NG17]Published: 26 August 2015 Last updated: 17 August 2022 Recommendations | Type 1 diabetes in adults: diagnosis and management | Guidance | NICE
5. A pan-London implementation document for continuous glucose sensors for adults with type 1 diabetes: device list. London-type-1-diabetes-CGM-access-Device-list-updated-August-2023.pdf (england.nhs.uk)
6. Flow chart: https://www.england.nhs.uk/london/wp-content/uploads/sites/8/2023/08/London-type-1-diabetes-CGM-access-flowchart-LCEG-updated-August-2023.pdf

Appendix 1

LIST 1:
- Specialist rtCGM
- Not available on FP10 – supply chain only.
- Speciality features appropriate for specific clinical conditions or compatibility with certain CSII devices
- No costings supplied for this list as supply chain costs will vary locally

Device Name	Key features of device	CSII/Closed loop compatibility	CBG testing required?
Abbott Freestyle Libre 3	14-day sensor Optional low and high glucose alerts. Data sharing with healthcare team, friends/relatives/carers via LibreLinkUp Smartphone access only – no alternative data reader.	Yes, compatible with mylife CamAPS FX app and mylife YpsoPump insulin pump.	Minimum 200 strips and lancets per annum - £52 p.a.[1]
DEXCOM G6	10-day sensor and 3-month transmitter. Fixed urgent low glucose alert (cannot be silenced). Predictive low glucose alert (optional). Data sharing with HCP's and relatives/carers. Optional reader device if no smartphone access.	Yes, compatible with Tandem t-slim X2, Omnipod 5 and CamAPS/YpsoPump systems	Minimum 200 strips and lancets per annum - £52 p.a. [1]
DEXCOM G7	10-day sensor, integrated transmitter – no expiry. Urgent low glucose alert and predictive low glucose alert	No current CSII compatibility	Minimum 200 strips and lancets per annum

	(both optional/can be silenced). Data sharing with HCP's and relatives/carers. Optional reader device if no smartphone access.		- £52 p.a. [1]
Medtronic Guardian 3	7-day sensor, 12-month rechargeable transmitter. Fixed urgent low glucose alert and optional predictive low glucose alert. Data sharing with HCP's only.	Compatible with Medtronic 640G and 670G.	Yes – 2 calibrations per day, in addition to the basic 200 strips and lancets per annum. Total cost p. a £241.00
Medtronic Guardian 4	7-day sensor, 12-month rechargeable transmitter. Fixed urgent low glucose alert and optional predictive low glucose alert. Data sharing with HCP's, and with relatives/carers via CareLink connect smartphone app.	Compatible with Medtronic 780G	Minimum 200 strips and lancets per annum - £52 p.a. [1]
Medtrum TouchCare Nano	14-day sensor, Rechargeable transmitter. Optional low glucose alerts. Data sharing with HCP's, and with relatives/carers	Medtrum TouchCare ® Nano Tubeless Insulin Pump	Minimum 200 strips and lancets per annum - £52 p.a. [1]

LIST 2:
- FP10 rtCGM
- Available on FP10
- All have optional low and high glucose alerts
- No compatibility with CSII devices
- All devices have sharing capability for HCP's but not all offer sharing with relatives/carers

Device Name	**Key features of device**	**Additional CBG testing required?**	**Estimated annual cost per individual[2]**
GlucoRX AiDEX	14-day sensor, 4-year transmitter Data sharing with HCP's and relatives/carers.	No	£778.74 (sensors and transmitter)[3] Minimum 200 strips and lancets per annum - £52 p.a. [1]
DEXCOM ONE	10-day sensor, 90-day transmitter Optional reader device if no smartphone access Data sharing with HCP's only (via DEXCOM Clarity software).	No	£900 (sensors)[3] Minimum 200 strips and lancets per annum - £52 p.a. [1]

Abbott FreeStyle Libre 2 **(for those using device via a smartphone)** Updates to LibreLink App in July 2023 mean that users accessing blood glucose readings via smartphone and the LibreLink App will now receive continuous glucose readings with no sensor scanning required; therefore, this device has been reclassified as rtCGM for smartphone users	14-day sensor, no transmitter required Sensor must be scanned using Reader device to access blood glucose readings Optional low and high glucose alerts Data sharing with healthcare team, friends/relatives/carers via LibreLink App Optional reader device if no smartphone access	No	£910 (sensors)[4] Minimum 200 strips and lancets per annum - £52 p.a. [1]
GlucoMen Day - Discontinued			

LIST 3:

- isCGM

- Available on FP10

- No compatibility with CSII devices

Device Name:	**Key features of device:**	**Additional CBG testing required?**	**Estimated annual cost per individual[2]**
Freestyle Libre 2 **For those using device via a Freestyle Libre 2 Reader device (non-smartphone users)**	14-day sensor, no transmitter required Sensor must be scanned using Reader device to access blood glucose readings Optional low and high glucose alerts Data sharing with healthcare team, friends/relatives/carers via LibreLinkUp Optional reader device if no smartphone access	No	£910 (sensors)[4] Minimum 200 strips and lancets per annum - £52 p.a. [1]

[1] Based on use of 4 test strips and lancets per day at a cost of £0.26 per unit.
[2] Cost as per National Drug Tariff January 2024.
[3] £23 per 10-day sensor (36 sensors per annum); £18 per 3-month transmitter (4 transmitters per annum)
[4] £35.00 per 14-day sensor – 26 sensors per annum. No transmitter.

Appendix 2: Links to education and advice

1. DTN-UK Education modules on continuous glucose monitoring. Available at: https://abcd.care/dtn-education/continuous-glucose-monitoring

2. ABCD: Getting started with FreeStyle Libre 1 (part of the DTN-UK flash glucose monitoring education programme). Available at: https://abcd.care/resource/current/getting-started-freestyle-libre-1

3. EDEN: Implementing glucose sensing in primary care training package. Register at: https://www.glucose-sensing.com/

4. Dexcom Education Hub. Real-time continuous glucose monitoring. Available at: https://uk.provider.dexcom.com/education-and-resources/rt-cgm-education

5. Dexcom ONE training and resources. Available at: https://uk.provider.dexcom.com/products/dexcom-one/training-and-resources?UNLID=504640407202355162430

6. GlucoRx AiDEX Hub. Available at: https://www.glucorx.co.uk/glucorx-aidex-hub/

7. FreeStyle Libre https://www.FreeStylelibre.co.uk/libre/help/tutorials.html

8. Eden training modules (for FreeStyle Libre) https://www.edendiabetes.com/news-blog/new-flash-glucose-monitoring-elearning