

# Norfolk and Waveney Integrated Care Board Continuous Glucose Monitoring during pregnancy for women with Insulin Treated Diabetes Mellitus Implementation Plan

## **Document Control:**

For Use In:	All 3 acute trusts – QEHKL, JPUH and NNUH		
For Use III.	For use in maternity services		
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Ratified By:	NWICB Diabetes Technologies Working Group		
Approval Date:	16 September 2022	Date to be reviewed by: This document remains current after this date but will be under review	The document is live and will be regularly updated based on technology changes and with a plan to regularly review within the Diabetes Technology Group.
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Reference Number:			

## **Version History: \***

Version	Date	Author	Reason/Change

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#### Previous Titles for this Document: \*

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

Note which Trust, where applicable.

#### **Distribution Control\***

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

#### Consultation

This document was developed in consultation with members of the NWICB technologies group. The group is made up of clinicians who specialise in the area of diabetes technologies from each acute trust and members of the NWICB medicines optimisation team with representation from the NWIC diabetes programme team. The process has had oversight from the EoE NHS Diabetes Leads.

Provider organisation management and finance teams have also been consulted.

## **Monitoring and Review of Procedural Document**

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g., changes in legislation, findings from incidents or document expiry.

## Relationship of this document to other procedural documents \*

This document is a standard operating procedure applicable to NNUH, QEHKL and JPUH; please refer to local Trust's procedural documents for further guidance.

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## 1) Introduction

The Maternity Diabetes Technology sub-group of the Diabetes programme board has been tasked with implementation of the recommendations which are transparent and equitable across N&W ICB.

The Maternity Diabetes Technology subgroup recommends following implementation plan.

The group suggests pathways for newly pregnant patients with existing Type 1 diabetes.

The group further suggests pathways for those with Type 2 diabetes who are on MDI or with continued poor control of blood glucose levels following support of the MDT.

This applies to pregnant people under the care of the maternity diabetes services with a diagnosis of diabetes mellitus and who require medical treatment involving use of insulin.

The purpose of this policy is to determine eligibility for CGM/libre depending on presenting circumstances. Patient groups not within the scope of this policy include individuals who are not pregnant or those with a diagnosis of DM who do not require insulin to manage their disease.

The NHS Long-term plan published in January 2019 states: 3.80. The NHS will ensure that, in line with clinical guidelines, patients with type 1 diabetes benefit from life changing flash glucose monitors from April 2019, ending the variation patients in some parts of the country are facing. In addition, by 2020/21, all pregnant women with type 1 diabetes will be offered continuous glucose monitoring, helping to improve neonatal outcomes.

NHSE&I published a letter and frequently asked questions (FAQ) supporting document in September 2020 that provided further information on the use of CGM in pregnancy, the letter stated:

- a. The NHS Long Term Plan includes the commitment that "by 2020/21, all pregnant women with type 1 diabetes will be offered continuous glucose monitoring [CGM], helping to improve neonatal outcomes.
- b. "The CONCEPTT trial has linked CGM with a CGM during Pregnancy for People with Insulin Treated Diabetes Mellitus V3 October 2022 Page 11 of 21 reduction in rates of pre-eclampsia for pregnant women with type 1 diabetes, and a reduction in adverse neonatal outcomes (large for gestational age, neonatal hypoglycaemia, and neonatal intensive care admission) for their babies.

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c. Research by Yamamoto & Murphy 2021 indicates that the reduction in maternal hyperglycaemia achieved through the use of isCGM in recent limited studies may contribute to the significantly lower rates of preterm births, large-forgestational-age birthweight infants, and neonatal intensive care unit admissions in women with type 2 diabetes. More specific research is required in this marginalized patient population.

## 2) Commissioning Summary

NHS Norfolk and Waveney Integrated Care Board (ICB), also termed 'the Commissioner' in this document, commissions use of Continuous Glucose Monitoring (CGM) if clinically appropriate and within the recommendations of this implementation plan, for pregnant women with insulin treated diabetes mellitus as follows:

## **Pregnant Women with Type 1 Diabetes Mellitus**

- Real time CGM (rtCGM) or
- Intermittently scanned CGM (isCGM, also known as FlashGM) if unable to use rtCGM or express a clear preference for isCGM

## Pregnant women who are on insulin therapy, but do not have Type 1 Diabetes

isCGM for those on multiple daily insulin injections if at least one of the following apply:

- They have recurrent hypoglycaemia or severe hypoglycaemia
- They have impaired hypoglycaemia awareness
- They have a condition or disability (including a learning disability or cognitive behaviour) that means they cannot self-monitor their blood glucose by capillary blood glucose monitoring, but could use an isCGM device (or have it scanned for them)
- They would otherwise be advised to self-measure at least 8 times a day

isCGM for those treated with insulin who would otherwise need help from a care worker or healthcare professional to monitor their blood glucose.

rtCGM for those on insulin therapy if they have:

- Problematic severe hypoglycaemia (with or without awareness of hypoglycaemia) OR
- Unstable blood glucose levels that are causing concern despite efforts to optimise glycaemic control.

Some people may not meet CGM eligibility criteria post pregnancy, in these situations CGM will be provided on a temporary basis (for up to 12 months total use) to cover the gestational and post-partum period.

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## 3) Scope

This implementation plan applies to all patients for whom Norfolk and Waveney ICB has responsibility for including:

People provided with primary medical services by GP practices which are members of the ICB and people usually resident in the area covered by the ICB and not provided with primary medical services by any ICB

Where a person with diabetes resides in the Norfolk and Waveney ICB area and is seen in specialist services out of the Norfolk and Waveney ICB area and where the purpose of the clinical consultation requires assessment for CGM, then this implementation should be followed.

The clinical responsibility for applying this implementation plan to a presenting patient, rests with the clinician who is responsible for the patient at that point in the treatment pathway. This should be done in consideration of the patient's individual clinical circumstances, their place on the management pathway and following discussions with the patient.

Where a patient's clinical presentation does not clearly meet the requirements for secondary care referral within the context of this implementation plan, and where a GP is uncertain or concerned about the appropriate treatment/management pathway, referral for Advice and Guidance should be considered as an alternative to a referral for clinical assessment.

There may be occasions when a GP referral is made for specialist assessment which appears to meet the implementation plan requirements, but which on specialist clinical examination either does not meet the clinical criteria for the intervention or is not considered clinically suitable for the intervention. Such patients should be discharged without the intervention.

For patients who do not fall within the eligibility criteria set out in the implementation plan, but where there is demonstrable evidence that the patient has exceptional clinical circumstances, an Individual Funding Request may be submitted for consideration. The referring clinician should the consult the Commissioner's 'Operational Policy' for Individual Funding Requests document for further guidance on this process.

https://nww.knowledgeanglia.nhs.uk/LinkClick.aspx?fileticket=pa0yGRi0Ool%3d&portalid=1

 $\underline{\text{https://nww.knowledgeanglia.nhs.uk/LinkClick.aspx?fileticket=nhkGxSJHmOc%3d\&portalid=1}}$ 

For definition of the term 'exceptional clinical circumstances' please refer to the definitions section of this document.

The purpose of this implementation plan is to determine eligibility for CGM depending on presenting circumstances.

The following implementation plans are also available for people with a diagnosis of diabetes who use insulin to manage their disease;

- Diabetes technologies for adults with type 1 and type 2 diabetes
- CGM for Children and Young People

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# 4) Processes/Pathways

We propose 2 pathways, one for CGM in pregnancy for patients with Type 1 Diabetes, and CGM in pregnancy for patients with Type 2 diabetes and other Diabetes on Insulin.

See pages 15-16 for pathways

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## 5) Patient Eligibility

#### **Type 1 Diabetes Mellitus**

#### Offer rtCGM to all pregnant women with type 1 diabetes:

Offer isCGM (FlashGM) to pregnant women with type 1 diabetes who are unable to use rtCGM or express a clear preference for isCGM

**Note:** NHSE&I have stated that all pregnant people with type 1 diabetes should be offered continuous glucose monitoring [CGM] to improve neonatal outcomes. They have defined this as rtCGM, as the evidence for rtCGM in pregnancy is greater than isCGM. However patient choice and circumstance may mean that in some clinical scenarios isCGM is the preferred option.

## Pregnant women who are on insulin therapy but do not have type 1 diabetes:

Offer isCGM to those on multiple daily insulin injections if any of the following apply: or they have recurrent hypoglycaemia or severe hypoglycaemia

- they have impaired hypoglycaemia awareness
- -they have a condition or disability (including a learning disability or cognitive impairment) that means they cannot self-monitor their blood glucose by capillary blood glucose monitoring but could use an isCGM device (or have it scanned for them)
- they would otherwise be advised to self-measure at least 8 times a day.

Offer isCGM for those treated with insulin who would otherwise need help from a care worker or healthcare professional to monitor their blood glucose.

Consider rtCGM for those on insulin therapy if they have:

- a. Problematic severe hypoglycaemia (with or without impaired awareness of hypoglycaemia) or
- b. Unstable blood glucose levels that are causing concern despite efforts to optimise glycaemic control.

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When rtCGM is considered appropriate, specialist diabetes teams at provider trusts are responsible for:

- Determining the appropriate choice of rtCGM based on clinical circumstances, cost-effectiveness, and ability to link to CSII. Note: When choosing a continuous glucose monitoring device (rtCGM or isCGM) use shared decision making to identify the person's needs and preferences and offer them an appropriate device. Where multiple devices meet their needs and preferences, offer the device with the lowest cost.
- Initiating use of the device (including education)
- Device and consumable supply throughout the period of use
- Review of eligibility for rtCGM, usually at 3-6 months post-partum, and discontinuation if appropriate.

When is CGM is considered appropriate, specialist diabetes teams at provider trusts are responsible for:

- Initiating use of the device (including education)
- Supply of sensors

Some people may not meet rtCGM/Flash eligibility criteria post pregnancy, in these situations CGM/Flash may be provided on a temporary basis for <u>up to 12 months total use</u> to cover the gestational and post-partum period if there is a clinical reason to support continued use. This will be provided for each pregnancy episode.

Where discontinuation is appropriate (12 weeks post-partum or earlier if indicated) due to no longer meeting eligibility criteria, consideration will be given to patient eligibility for other glucose management options in accordance with clinical commissioning policy.

## Pregnant women with type 1 diabetes and type 2 diabetes (glucose monitoring).

With effect from November, in routine clinic appointments, the Maternity MDT diabetes team will start discussing glucose monitoring with all patients with T1DM and T2DM to establish:

- 1. Are they using glucose monitoring technology already?
  - Is it appropriate for their care needs, e.g., are they hypo unaware and type 1 diabetes rtCGM (real time Continuous Glucose Monitor) would be more appropriate than isCGM (intermittently scanned Continuous Glucose Monitor)?
  - Type 2 diabetes offer isCGM.
  - Is the device appropriate for their diabetes needs? If using an insulin pump, does it link with their pump? If not consider switching.
- 2. If they are not using glucose monitoring technology, would they want to?

It needs to be remembered that there will be a certain percentage of pregnant women who despite the benefits of technology would prefer for a variety of reasons not to change and may prefer finger pricking instead.

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If yes, consider with the woman and team which option is more appropriate for their needs i.e. is CGM or rtCGM.

3. Funding mechanism and process to be agreed with ICS, rtCGM pathway in place already, isCGM prescribed via GP.

Once started on using either isCGM or rtCGM the number of blood glucose testing strips can be reduced as clinically advised, the maternity MDT diabetes team will write to the GP surgery advising them that this can be reduced.

Please note, test strips should also be reviewed to ensure cost effective options (<£10 per 50 strips are used).

## 6) Further Information for Clinicians

### <u>Transition from Children/Young People Services to Adult Services</u>

When a person transfers from the children to the young adult services, a clinical assessment will be made on the most appropriate technologies to be used by that person going forwards.

#### **Disposal of Technologies**

Norfolk and Waveney ICS/ICB are waiting for a national position on the disposal of the form of clinical waste.

In the intervening time, please refer to disposal guidelines, set out by the manufacturers of the devices you are recommending.

#### **De-Prescribing of Blood Glucose Monitoring Strips**

When a technology is prescribed, the number of blood glucose strips to be prescribed by the General Practitioner needs to be reduced to 4 bottles of 50 test strips per year. A letter needs to be sent to the GP requesting this change.

### <u>Training of Healthcare Professionals</u>

A link to the training platform can be found here: <u>HCP Education | ABCD (Diabetes Care)</u> Ltd.

In addition, there needs to be access to training on the individual technological devices that are being recommended by the clinician. The healthcare professional should also attend face to face training from other with the correct competencies.

#### **Training of Devices**

Patient/parent education on all systems will be provided by the MDT

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#### **Driving Advice**

Diabetes mellitus: assessing fitness to drive - GOV.UK (www.gov.uk)

#### Technologies that are not prescribed

When a clinician is giving the patient a technology that is not prescribed on FP10, they will need to complete the following proforma to obtain and patient identifier (or funding number) and send the form to the Norfolk Tariff address at <a href="mailto:norfolkontariff@nhs.net">norfolkontariff@nhs.net</a>

#### Applying for a funding number for continuous glucose monitoring

When a patient with diabetes and who requires CGM, a purchase order number will need to be obtained from the Medicines Optimisation team. To do this, complete this form and follow the instructions to submit:

https://nww.knowledgeanglia.nhs.uk/LinkClick.aspx?fileticket=OMvVnGqlDb0%3d&tabid=22 83&portalid=1&mid=3378

Any problems with the link above please try to access the form via Knowledge Anglia.

The supplier of the monitor will require the Purchase Order number.

If this is not done, then the monitor will be charged to your Trust rather than the Medicines Management team. At the current time, it is the Medicines Management team budget that covers the cost of the monitors. This will be updated when this changes in the future.

This process also helps the system understand the level of demand for the monitors.

### The Norfolk and Waveney Formulary of diabetes technologies

The following link is a list of devices relating to diabetes technologies that have been agreed for use in the system.

https://www.norfolkandwaveneyformulary.nhs.uk/Mobile/chaptersSubDetails.asp?Formulary SectionID=6&SubSectionRef=06.01.06&SubSectionID=B100

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## 7) Definitions

**Exceptional** - refers to a person who demonstrates characteristics, which are highly unusual, uncommon, or rare.

**Exceptional clinical circumstances** are clinical circumstances pertaining to a particular patient, which can properly be described as exceptional, when compared to the clinical circumstances of other patients with the same clinical condition and at the same stage of development of that condition (i.e., similar patients). A patient with exceptional clinical circumstances will have clinical features or characteristics which differentiate that patient from other patients in that cohort and result in that patient being likely to obtain significantly greater clinical benefit (than those other patients) from the intervention for which funding is sought.

A Similar Patient is a patient who is likely to be in the same or similar clinical circumstances as the requesting patient and who could reasonably be expected to benefit from the requested treatment to the same or a similar degree. The existence of more than one similar patient indicates that a decision regarding the commissioning of a service development or commissioning policy is required of the Commissioner.

An individual funding request (IFR) is a request received from a provider or a patient with explicit support from a clinician, which seeks exceptional funding for a single identified patient for a specific treatment.

An in-year service development is any aspect of healthcare, other than one which is the subject of a successful individual funding request, which the Commissioner agrees to fund outside of the annual commissioning round. Such unplanned investment decisions should only be made in exceptional circumstances because, unless they can be funded through disinvestment, they will have to be funded because of either delaying or aborting other planned developments.

The term "where appropriate" within this document means that clinical judgement is exercised in determining which aspects of the policy guidance can be applied to individual patients depending on their condition; ability to tolerate the listed treatment; and whether they have already undergone that treatment.

**Diabetes mellitus** (DM) is a chronic disease caused by inherited and/or acquired deficiency in production of insulin by the pancreas, or by the ineffectiveness of the insulin produced. Such a deficiency results in increased concentrations of glucose (sugar) in the blood, which in turn damages many of the body's systems, in particular the blood vessels and nerves.

There are two different forms of diabetes:

1) **Type 1 diabetes** in which the pancreas fails to produce the insulin which is essential for survival. This form develops most frequently in children and adolescents but is being increasingly noted later in life.

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2) **Type 2 diabetes** which results from the body's inability to respond properly to the action of insulin produced by the pancreas.

Type 2 diabetes is much more common and accounts for around 90% of all diabetes cases worldwide. It occurs most frequently in adults but is being noted increasingly in adolescents as well.

**Continuous Glucose Monitoring (CGM)** is used in people who rely on insulin to control their diabetes. It involves use of a small device worn just under the skin; this measures interstitial glucose (sugar) levels continuously throughout the day and night. Some devices provide alerts for highs and lows to facilitate glucose control. There are different types of CGM available:

- **a. Real-time CGM** (rtCGM) uniformly tracks glucose concentrations in the body's interstitial fluid, providing near real-time glucose data. There are different types of rtCGM, those that can be used independently (standalone) and those that are used with an insulin pump (insulin pump compatible CGM sensor augmented pump therapy).
- **b. Intermittently scanned CGM** (isCGM) uses similar methodology to show continuous glucose measurements retrospectively at the time of checking. This is also known as Flash Glucose Monitoring (FlashGM).

**Self-monitoring blood glucose** (SMBG) involves a skin prick to draw blood and the application of a chemically active test-strip to the blood. The test-strip is inserted into a meter which provides a reading for the concentration of glucose in the blood at that time. This is the standard method of measuring and monitoring blood glucose in patients with diabetes, particularly those who use insulin to manage their disease.

**Insulin pumps** are small electronic devices that deliver regular insulin to the body throughout the day and night; also termed **Continuous Subcutaneous Insulin Infusion (CSII).** There are 2 types of insulin pump – a tethered pump and a patch pump. Both are attached to the body by a tiny tube called a cannula which sits just under the skin. Insulin pumps may be used with or without CGM.

**Hypoglycaemia** is where the level of glucose (sugar) in the blood drops to less than 4mmol/l; it mainly affects people with diabetes, especially those using insulin.

**Severe hypoglycaemia** is episodes of hypoglycaemia that require assistance from another person to treat.

**Recurrent hypoglycaemia** is frequent events of hypoglycaemia that occur each week or month and have an impact on quality of life.

**Hyperglycaemia** is where the level of glucose (sugar) in the blood is excessively high; it mainly affects people with diabetes and if it persists can cause damage to the body's internal organs.

**Nocturnal hypoglycaemia** is an episode of abnormally low blood glucose (sugar) occurring at night-time during sleep.

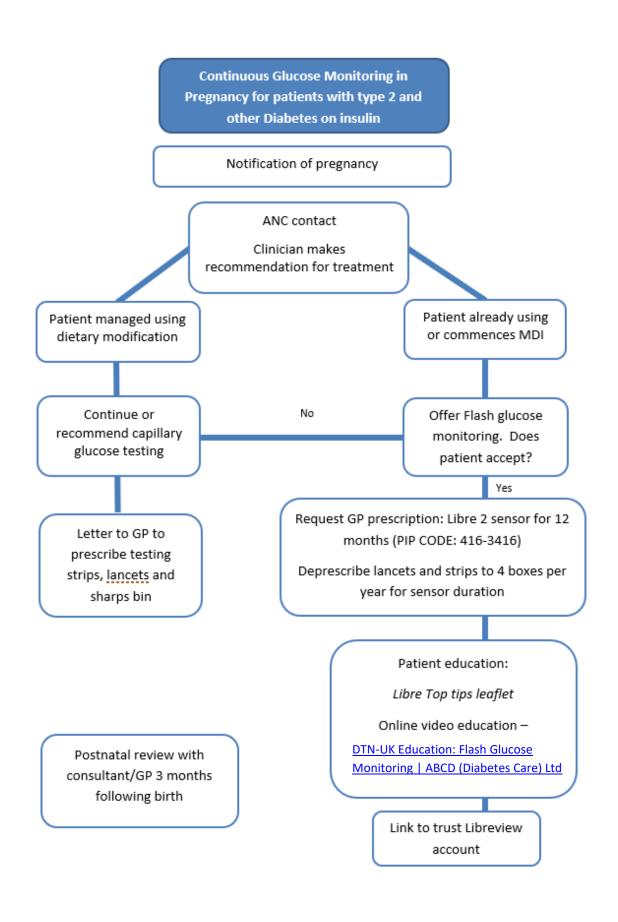
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**HbA1c**, is a measurement in the blood that represents the average blood glucose (sugar) levels for the last two to three months. A high HbA1c means there is too much glucose (sugar) in the blood indicating that diabetes control is suboptimal.

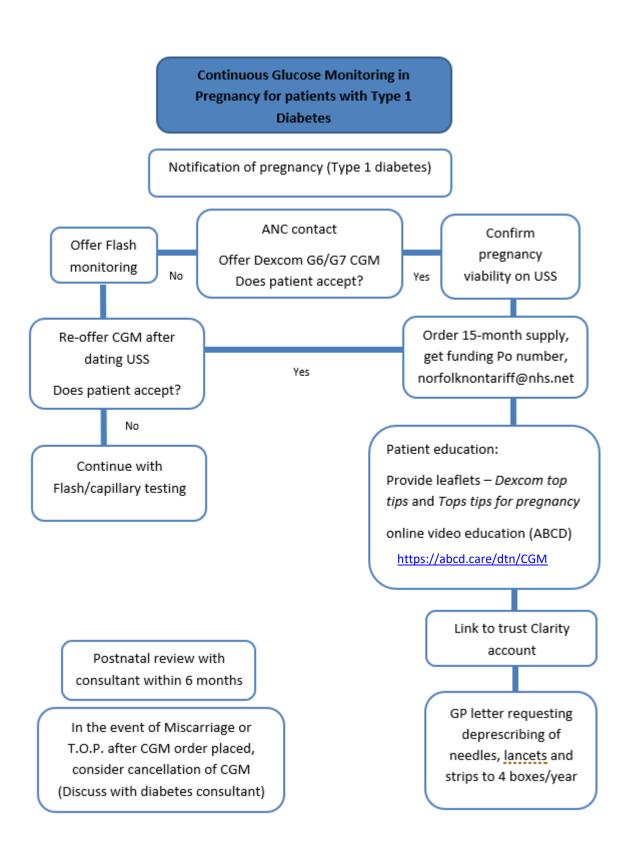
**Multiple daily injections** are two or more daily insulin injections, which could be a basal-bolus regimen or more than one daily insulin injection.

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## 8) References.

Diabetes in pregnancy: management from preconception to the post-natal period National Institute for Health and Care Excellence (NICE) guideline [NG3]. Published date: February 2015, last updated 16 Dec 2020.

Type 1 diabetes in adults: diagnosis and management National Institute for Health and Care Excellence (NICE) guideline [NG17]. Published date: August 2015, last updated 29th June 2022.

Type 2 diabetes in adults: management National Institute for Health and Care Excellence (NICE) guideline [NG28]. Published date: August 2015, last updated 29th June 2022.

NHSE&I letter and supporting FAQ document: Type 2 Diabetes Prevention Programme and Type 1 diabetes glucose

Jennifer M. Yamamoto and Helen R. Murphy.Benefits of Real-Time Continuous Glucose Monitoring in Pregnancy.Diabetes Technology & Therapeutics.Mar 2021.S-8-S-14.http://doi.org/10.1089/dia.2020.0667

## 9) Monitoring Compliance

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring

The audit results are to be discussed at relevant diabetes team and governance meetings to review the results and recommendations for further action.

Then sent to the Diabetes Programme Board who will ensure that the actions and recommendations are suitable and sufficient.

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## 10) Equality Impact Assessment (EIA)

Title/topic	Diabetes Technologies Implementation Plans (Phase 1)		
Status	This assessment related to phase 1 of the diabetes technologies		
	implementation plans where all eligible people are under specialist		
	services care.		

#### **Impact and Evidence**

In the following boxes detail the findings and impact identified (positive or negative) within the research detailed above; this should also include any identified health inequalities which exist in relation to this work

**Age:** Paediatrics: The paediatric cohort is within the prioritisation groups (Phase1) Finger pricking in this groups causes distress in the child. Also knowing the child's blood sugars can reduce anxiety in the parent/ carer. All other age groups will be included in line with NICE guidance and rolled out in a phased way. Further details can be found in the implementation plans. Access to technologies in children and young people with type 1 diabetes is specifically highlighted as a key clinical area of health inequalities in the Core 20+5 approach. Access to technologies in the most deprived quintiles and for children and young people from ethnic minority backgrounds are identified as a specific risk.

**Disability:** Access to diabetes technologies will be prioritised in adults reviewed at the next diabetes review. Disability should not be a barrier to technologies and many people with disability may benefit from access to technologies.

**Gender reassignment (including transgender):** Gender will not affect access to diabetes technologies.

**Marriage and civil partnership:** Partnership status will not affect access to diabetes technologies

**Pregnancy and maternity:** Women who are pregnant are prioritised for access to diabetes technologies (Phase1). The rationale for this is to reduce to risk to mother and baby as the result of high blood sugars during pregnancy. Further details can be found in the implementation plans. There is a strong evidence base that women with type 1 and type 2 diabetes have improved outcomes when using Continuous Glucose Monitoring (CGM) (CONCEPTT trial).

**Race:** Access to technologies in the most deprived quintiles and for children and young people from ethnic minority backgrounds are identified as a specific risk. We need to proactively monitor and ensure that access to technologies is equitable across all ethnic groups.

**Sex:** Implementation of diabetes technologies in phase 1 is available equally to all sexes. **Sexual orientation:** Diabetes technologies in phase 1 will be available to all people

Carers: Implementation of diabetes technologies in Phase 1: Carers would be encouraged to attend clinical appointments relating to the technologies, so that they too can understand the readings and what needs to be done about them, also they may need to understand how to fit the sensors for the technologies and how to support the person they are providing care for. The carers may need support as to what help is available to them.

**Other disadvantaged groups:** In Norfolk and Waveney 15.7% of people with type 1 diabetes live in the most deprived quintile. There is a need to ensure that access is equitable across all social groups.

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Health Inequalities	Yes/No	Evidence
Could health inequalities be	Yes	There is a risk that patient
created or persist by the		initiated follow up could
proposals		drive inequalities. There is
P. 0P 0000		a possibility that people who
		do not attend their planned
		clinical review or who are
		not known to acute services,
		may be disadvantaged.
Is there any impact for	Yes	There is need to ensure that
groups or communities living	100	people who receive their
in particular geographical		diabetes care in localities
areas?		other than Norfolk and
		Waveney have equitable
		access to technologies
Is there any impact for	Yes	People who are
groups or communities	100	unemployed, on low
affected by unemployment,		incomes or who have low
lower educational		educational attainment may
attainment, low income, or		find it more difficult to
poor access to green		access clinics at local
spaces?		hospitals due to the costs of
Spaces:		transport or to get time away
		from work to attend clinics.
		As the CGM/ Flash is to be
		offered at the next clinical
		review, people who struggle
		to attend clinics or who have
		regularly defaulted due to
		poor literacy and other
		social barriers, may
		potentially miss the
		opportunity to access the
		technologies.
FREDA Principles/Human	Question	Response
Rights	Question	Response
Fairness – Fair and equal	How will this respect a	The technologies
access to services	person's entitlement to	implementation plans are
	access this service?	being rolled out in a phased
		way with prioritisation based
		on clinical need.
Respect – right to have	How will the person's right	This activity abides by NHS
private and family life	to respect for private and	policies around patient
respected	family life, confidentiality	confidentiality.
	and consent be upheld?	<b>,</b>
Equality right not to be	How will this process ansura	Illtimatoly all poople with
Equality – right not to be	How will this process ensure	Ultimately all people with
discriminated against based	that people are not	type 1 diabetes will have
on your protected	discriminated against and	access to CGM technology.
characteristic	have their needs met and	During roll out prioritisation
	identified?	will be based on clinical

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	How will this affect a person's right to freedom of thought, conscience and religion?	need with every effort made to ensure that uptake is equitable. The programme team will monitor access to technologies for people with type 1 diabetes and type 2 diabetes via the National Diabetes Audit (NDA) Type 1 Dashboard (access to CGM) and the Adolescent and Young adult type 1 diabetes dashboard (access to pumps). Local data sources will be developed to monitor and support equity of access.
Dignity – the right not to be treated in a degrading way	How will you ensure that individuals are not being treated in an inhuman or degrading way?	Access to CGM offers the potential to improve quality of life by reducing the need for finger prick testing. For some people using the technologies offers the potential to open up activities and opportunities not previously considered accessible because of the limitations of finger prick testing and diabetes.
Autonomy – right to respect for private & family life; being able to make informed decisions and choices  Right to Life	How will individuals have the opportunity to be involved in discussions and decisions about their own healthcare? Will or could it affect someone's right to life? How?	Access to technologies in diabetes self -care of diabetes improves access to data to help inform self- care and decision making  For people with diabetes using technologies there is evidence of reduced hypoglycaemia which is a potentially a life- threatening
Right to Liberty	Will or could someone be	complication of insulin management in diabetes. For people with type 1 and other types of diabetes, insulin is a life requiring treatment and blood glucose monitoring is a necessary part of care. The technologies give
	deprived of their liberty? How?	people liberty.

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