

## Optimising glycaemic control in type 1 diabetes

Voting on published recommendations – Key Question 1: environmental and social factors

### ROUND 1: RESPONSES

Group members were asked to vote on the acceptability and implementability within NHS Scotland of 13 recommendations published in evidence-based guidelines on the topic of environmental and social factors associated with optimising glycaemic control in people with type 1 diabetes. The threshold of 70% of respondents indicating acceptance was established a priori as the definition of formal consensus. Results are summarised in the table below. Further details about adaptations and actions are included in the accompanying report.

Recommendation	Acceptable (%)		Implementable (%)			Action
	Yes	No	Yes	Yes, with adaptation	No	
1	85.71%	14.29%	83.33%	8.33%	8.33%	Include
2	78.57%	21.43%	54.55%	36.36%	9.09%	Include
3	71.43%	28.57%	60.00%	40.00%	0.00%	Include
4	100.00%	0.00%	71.43%	28.57%	0.00%	Include
5	92.86%	7.14%	61.54%	38.46%	0.00%	Include
6	92.86%	7.14%	100.00%	0.00%	0.00%	Include
7	100.00%	0.00%	85.71%	14.29%	0.00%	Include
8	100.00%	0.00%	92.86%	7.14%	0.00%	Include
9	92.86%	7.14%	76.92%	15.38%	7.69%	Include
10	100.00%	0.00%	85.71%	14.29%	0.00%	Include
11	100.00%	0.00%	85.71%	14.29%	0.00%	Include
12	92.86%	7.14%	76.92%	23.08%	0.00%	Include
13	92.86%	7.14%	92.31%	7.69%	0.00%	Include

The following responses, potential adaptations and comments were returned.

## SOCIAL DETERMINANTS OF HEALTH AND TAILORING TREATMENT FOR SOCIAL CONTEXT

### Recommendation 1

**Recommendation:** Assess food insecurity, housing insecurity/homelessness, financial barriers, and social capital/ social community support to inform treatment decisions, with referral to appropriate local community resources.

[Grade A]

**Source guideline:** American Diabetes Association Professional Practice Committee. 1. Improving Care and Promoting Health in Populations: Standards of Medical Care in Diabetes—2022. Diabetes Care. 2022 Jan;45(Supplement\_1):S8-16. (recommendation 1.5, page S11)

[https://diabetesjournals.org/care/article/45/Supplement\\_1/S8/138915/1-Improving-Care-and-Promoting-Health-in](https://diabetesjournals.org/care/article/45/Supplement_1/S8/138915/1-Improving-Care-and-Promoting-Health-in)

**Country and date of publication:** USA, 2022

**Guideline quality rating:** Rigour of development 79%, Editorial independence 92%, Stakeholder involvement **55%**

Of 14 respondents:

12 voted this recommendation as acceptable (85.71%)

2 voted this recommendation as unacceptable (14.29%)

Of the 12 respondents who voted this recommendation as acceptable:

10 voted this recommendation as implementable (83.33%)

1 voted this recommendation as implementable with adaptations (8.33%)

1 voted this recommendation as not implementable (8.33%)

12 out of 14 (85.71%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 1:

*Table 1: suggested adaptations and responses to recommendation 1*

Respondent	Response and comments
5	ADAPTATION - define social and community for Scotland context
2	COMMENT - This is sensible and a very real consideration for many in the current climate.
3	COMMENT - Assessment of food insecurity, housing insecurity/homelessness, financial barriers, and social capital/ social

	community support can be very subjective and relies heavily on an individual being comfortable to open up about such things - would it be useful to have a standardised way of trying to implement this assessment - not squeezing it into an already time limited clinic appointment.
4	COMMENT - very American-centric recommendation. Will clinicians know what is actually meant by social capital/social community support? Not sure we have appropriate local community resources in the UK of which clinicians would be aware. Wording of recommendation 9 -albeit this applies to children and adolescents - seems much more appropriate for the UK context.
5	COMMENT - Partner agencies and bodies that can support patients in these circumstances will be different in Scotland.
9	COMMENT - Staff would need support to effectively assess the above, in particular food security as emerging evidence suggests clinicians struggle with this.
10	COMMENT - This recommendation is key to ensuring we offer a more holistic approach to managing and optimising T1DM management. Implementation of this recommendation will require a revision in how we historically offer care to ensure good linkage with social and financial services (where appropriate) but this should not deter us having that aspiration.
11	COMMENT - I think I am misunderstanding this recommendation because I have spent too much time trying to work out what 'treatment decisions' means. Initial thought, type 1 is treated with insulin and that would not change based on social context, so why consider social context to inform treatment decisions? Second thought, maybe it's the method of delivery of insulin, but that would be discriminatory to not allow someone an insulin pump due to social context. Last thought, 'treatment' extend to providing support in social context to make sure the person with T1D has access to the best method of insulin delivery for them. I think that's right and good but I wouldn't call it treatment, rather support to access treatment. I read the source guidelines, lots of descriptions of social context but nothing I could see that explained 'treatment decisions'.
12	COMMENT - As things stand within clinical services there needs to be additional social services support into clinical teams if this is to be meaningfully taken forward - time needed to explore this sort of issues is not available for Consultant / DSN / dietitian staff.

## Recommendation 2

**Recommendation:** Clinicians should assess the SDOH [Social determinants of health] in persons with DM [Diabetes Mellitus] to better guide them to the most appropriate resources. Interventional trials addressing SDOH and health inequities in DM are needed to evaluate reversibility of their impact.

[GRADE B, Best evidence level 1]

**Source guideline:** American Association of Clinical Endocrinology Clinical Practice Guideline: Developing a Diabetes Mellitus Comprehensive Care Plan—2022 Update. Endocrine Practice, Vol: 28, Issue: 10, Page: 923-1049. (recommendation 23, page 997) ([https://www.endocrinepractice.org/article/S1530-891X\(22\)00576-6/fulltext](https://www.endocrinepractice.org/article/S1530-891X(22)00576-6/fulltext))

**Country and date of publication:** USA, 2022

**Guideline quality rating:** Rigour of development 92%, Editorial independence 92%, Stakeholder involvement 43%

**Additional notes:** The guideline cites the following examples of SDOH from the World Health Organization (see p 997):

1. Income and social protection
2. Level of education
3. Unemployment and job insecurity
4. Working life conditions
5. Food insecurity
6. Housing, basic amenities, and the environment
7. Early childhood development
8. Social inclusion and nondiscrimination
9. Structural conflict
10. Access to affordable health services of decent quality

Of 14 respondents:

11 voted this recommendation as acceptable (78.57%)

3 voted this recommendation as unacceptable (21.43%)

Of the 11 respondents who voted this recommendation as acceptable:

6 voted this recommendation as implementable (54.55%)

4 voted this recommendation as implementable with adaptations (36.36%)

1 voted this recommendation as not implementable (9.09%)

11 out of 14 (78.57%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 2:

Table 2: suggested adaptations and responses to recommendation 2

Respondent	Response and comments
2	ADAPTATION - Would need to have corresponding data items within SCI-Diabetes to allow these data to be collected and collated in a systematic way.
4	ADAPTATION - I don't think we need reference made to the need for interventional trials in our guidelines
9	ADAPTATION - As below
13	ADAPTATION - More formal assessment tools required to help facilitate this and appropriate signposting tools
1	COMMENT - Unlike America, in Scotland all people with diabetes should have access to decent health care, free at the point of use.
3	COMMENT - The recommendations appears to be for interventional trials - this would have to be a wider discussion with diabetes clinics to see if any such trials are feasible.
6	COMMENT - Too much overlap with Q1
9	COMMENT - Unsure how feasible clinicians can assess or appropriateness for diabetes clinicians to assess say early childhood development ; perhaps needs further clarification
10	COMMENT - This feels more like an aspirational ask and more of a research issue. While clearly there is merit in looking at this then I feel that the previous recommendations covers many of these areas (although not in such a structured manner). I also note the grade of recommendation is lower with min stakeholder involvement.
12	COMMENT - Similar to my comments for recommendation 1 - sits around issues with service structure currently, to adopt this I think wide scale re-gig and staff resources needed - I can't see the benefit of spending time to explore with patients is there isn't practical support to them thereafter
14	COMMENT - We would need to have a structured questionnaire for people/families to complete at diagnosis.

### Recommendation 3

**Recommendation:** Assess diabetes health care maintenance (see table 4.1) using reliable and relevant data metrics to improve processes of care and health outcomes, with attention to care costs.

[GRADE B]

**Source guideline:** American Diabetes Association Professional Practice Committee. 1. Improving Care and Promoting Health in Populations: Standards of Medical Care in Diabetes—2022. *Diabetes Care*. 2022 Jan;45(Supplement\_1):S8-16. ([https://diabetesjournals.org/care/article/45/Supplement\\_1/S8/138915/1-Improving-Care-and-Promoting-Health-in](https://diabetesjournals.org/care/article/45/Supplement_1/S8/138915/1-Improving-Care-and-Promoting-Health-in))

**Country and date of publication:** USA, 2022

**Guideline quality rating:** Rigour of development 79%, Editorial independence 92%, Stakeholder involvement 55%

**Additional notes:** Interpretation of this recommendation may require reference to the following underlying evidence statement on pages S10-11. Table 4.1 is available in the full guideline only on page S49.

"As health care systems and practices adapt to the changing landscape of health care, it will be important to integrate traditional disease-specific metrics with measures of patient experience, as well as cost, in assessing the quality of diabetes care (63,64). Information and guidance specific to quality improvement and practice transformation for diabetes care is available from the National Institute of Diabetes and Digestive and Kidney Diseases guidance on diabetes care and quality (65). Using patient registries and electronic health records, health systems can evaluate the quality of diabetes care being delivered and perform intervention cycles as part of quality improvement strategies (66). Improvement of health literacy and numeracy is also a necessary component to improve care (67,68). Critical to these efforts is provider adherence to clinical practice recommendations (see Table 4.1) and the use of accurate, reliable data metrics that include sociodemographic variables to examine health equity within and across populations (69)."

Of 14 respondents:

10 voted this recommendation as acceptable (71.43%)

4 voted this recommendation as unacceptable (28.57%)

Of the 10 respondents who voted this recommendation as acceptable:

6 voted this recommendation as implementable (60%)

4 voted this recommendation as implementable with adaptations (40%)

0 voted this recommendation as not implementable (0%)

10 out of 14 (71.43%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 3:

*Table 3: suggested adaptations and responses to recommendation 3*

Respondent	Response and comments
6	ADAPTATION - take out table reference.
9	ADAPTATION - "attention to care costs"? remove or reword?
12	ADAPTATION - use of SciDC data rather than American IT systems to monitor quality of care delivered - there needs to be pages within SciDC to capture this and make the system more dynamic for patients. So right now I'm not sure if you can say implementable with adaptations or if changes to SciDC mean only partially implementable.

13	ADAPTATION - Reporting of sociodemographic details will need to be more widely and easily accessible. Tools to assess and improve health literacy will need to be implemented.
2	COMMENT - I was unable to access table 4.1 using the link provided, so don't know what the specific metrics are but I agree in principle with the statement.
3	COMMENT - Potentially worth wider discussion - are these metrics something that sci-diabetes may have the ability to support?
4	COMMENT - I think if this recommendation is included clinicians will be utterly baffled (I certainly was).
5	COMMENT - I think assessing the whole cost of diabetes management should be encouraged, after all, this is why we have been able to introduce the latest technology. Use of big data and analytics may uncover other insights into health outcomes.
6	COMMENT - Useful too to inform change /improve access.
7	COMMENT - At an advantage in this with SCI Diabetes resource.
9	COMMENT - Need to ensure equity of care and the wording of above could be interpreted in many ways which could be less helpful.
10	COMMENT - As before this seems aspirational and the actual recommendation is very generic/vague and clearly tailored to a US care model. As such I don't think we would recommend this within this guideline.
11	COMMENT - Can't find the full guideline to see Table 4.1.

#### Recommendation 4

**Recommendation:** A patient-centered communication style that uses person-centered and strength-based language and active listening; elicits patient preferences and beliefs; and assesses literacy, numeracy, and potential barriers to care should be used to optimize patient health outcomes and health-related quality of life.

[GRADE B]

**Source guideline:** American Diabetes Association Professional Practice Committee. 4. Comprehensive Medical Evaluation and Assessment of Comorbidities: Standards of Medical Care in Diabetes-2022. Diabetes Care. 2022 Jan 1;45(Supplement\_1):S46-59.

(recommendation 4.1, page S46)

([https://diabetesjournals.org/care/article/45/Supplement\\_1/S46/138926/4-Comprehensive-Medical-Evaluation-and-Assessment](https://diabetesjournals.org/care/article/45/Supplement_1/S46/138926/4-Comprehensive-Medical-Evaluation-and-Assessment))

**Country and date of publication:** USA, 2022

**Guideline quality rating:** Rigour of development 79%, Editorial independence 92%, Stakeholder involvement 55%

Of 14 respondents:

14 voted this recommendation as acceptable (100%)

0 voted this recommendation as unacceptable (0%)

10 voted this recommendation as implementable (71.43%)

4 voted this recommendation as implementable with adaptations (28.57%)

0 voted this recommendation as not implementable (0%)

14 out of 14 (100%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 4:

*Table 4: suggested adaptations and responses to recommendation 4*

<b>Respondent</b>	<b>Response and comments</b>
2	ADAPTATION - Use of Scottish-specific terminology e.g. Realistic medicine, house of care etc.
4	ADAPTATION - I don't think 'strength-based language' is appropriate, should we be referring to positive language? Also would healthcare professionals need skills training in order to deliver this kind of approach?
9	ADAPTATION - Perhaps replace "strength" with "values" and use "person" rather than "patient".
12	ADAPTATION - To implement appointment time need reviewed likely increased.
3	COMMENT - Agree this is acceptable and implementable - would rely heavily on clinicians receiving further training which may be problematic in terms of cost/time/willing.
7	COMMENT - Whilst this sounds obvious, we are currently inexperienced in assessing literacy and numeracy in a sensitive and patient centred way.
9	COMMENT - Further clarification around this may be helpful to ensure reduce harm/ judgemental language etc.
10	COMMENT - This very much supports the person centred care approach advocated by the Realistic Medicine agenda and should be the cornerstone of consultations.
13	COMMENT - Ongoing training and supervision of consultation techniques will help to improve and maintain this practice.
14	COMMENT - We need to continue to provide training in this area.



## TELEMEDICINE AS A MEANS OF IMPROVING ACCESS

### Recommendation 5

**Recommendation:** Telemedicine, including periodic phone calls, smartphone-web interactions, and periodic supervision by health care professional interactions, is strongly recommended to treat persons with diabetes, provide diabetes education, remotely monitor glucose and/or insulin data to indicate the need for therapy adjustments, and improve diabetes-related outcomes/control with better engagement. [GRADE A]

**Source guideline:** Grunberger G, Sherr J, Allende M, Blevins T, Bode B, Handelsman Y, et al. American Association of Clinical Endocrinology Clinical Practice Guideline: The Use of Advanced Technology in the Management of Persons With Diabetes Mellitus. *Endocr Pract.* 2021 Jun;27(6):505-537. (recommendation 2.11.1, page 523) (<https://www.endocrinepractice.org/action/showPdf?pii=S1530-891X%2821%2900165-8>)

**Country and date of publication:** USA, 2021

**Guideline quality rating:** Rigour of development 92%, Editorial independence 92%, Stakeholder involvement 43%

Of 14 respondents:

13 voted this recommendation as acceptable (92.86%)

1 voted this recommendation as unacceptable (7.14%)

Of the 13 respondents who voted this recommendation as acceptable:

8 voted this recommendation as implementable (61.54%)

5 voted this recommendation as implementable with adaptations (38.46%)

0 voted this recommendation as not implementable (0%)

13 out of 14 (92.86%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 5:

*Table 5: suggested adaptations and responses to recommendation 5*

Respondent	Response and comments
2	ADAPTATION - Include use of video consultations e.g. Near me. Consider linking to recommendation for remote HbA1c monitoring.
4	ADAPTATION - We need to be mindful that some people live in digital poverty, and this kind of recommendation could reinforce social inequalities. Alternatives need to be offered to people who don't have smart phones et cetera.

6	ADAPTATION - Do we widely recognise the phrase telemedicine?
13	ADAPTATION - We need to improve access for those who do not have access to technology.
14	ADAPTATION - Allow flexibility to suit individuals: some prefer more telemedicine and others for face to face. Also some struggle with data upload remotely so need to attend in person. Issues with pump data upload persist, sometimes lack of IT at home or IT issues that make data upload difficult at home.
3	COMMENT - Virtual/remote care models are already used widely throughout Scotland but not always the best model of care for people and worth promoting flexibility of various care models to make them person-centred and not focus solely on digital care models. Mindful of digital exclusion.
7	COMMENT - IT systems have a long way to go and do not appear to be moving in this direction with adequate progress but this should of course be the aim.
9	COMMENT - Majority of papers recommendation made was for people with T2D; for those with T1D very short duration follow up, publication bias and one paper only n=2. Anecdotally telemedicine seems a sensible approach, in combination with F2F if/when appropriate, based on persons preferences and needs.
10	COMMENT - Recommendations supporting a hybrid care model are most welcome particularly when Grade A with a high level of rigour.

## CONTINUOUS GLUCOSE MONITORING - OVERCOMING BARRIERS TO USE

### Recommendation 6

**Recommendation:** Include CGM in the structured education programme provided to all adults with type 1 diabetes (see the section on education and information) and ensure that people are empowered to use CGM devices (see the section on empowering people to self-monitor blood glucose).

[STRONG RECOMMENDATION]

**Source guideline:** National Institute for Health and Care Excellence (NICE). NG17 - Type 1 diabetes in adults: diagnosis and management (recommendation 1.16.7, page 20) (<https://www.nice.org.uk/guidance/ng17/resources/type-1-diabetes-in-adults-diagnosis-and-management-pdf-1837276469701>)

**Country and date of publication:** UK, 2022

**Guideline quality rating:** Rigour of development 98%, Editorial independence 100%, Stakeholder involvement 98%

**Additional notes:** Rationale available in NICE Evidence Review B (pages 52-54). (<https://www.nice.org.uk/guidance/ng17/evidence/b-continuous-glucose-monitoring-in-adults-with-type-1-diabetes-pdf-11013435182>)

Of 14 respondents:

13 voted this recommendation as acceptable (92.86%)

1 voted this recommendation as unacceptable (7.14%)

Of the 13 respondents who voted this recommendation as acceptable:

13 voted this recommendation as implementable (100%)

0 voted this recommendation as implementable with adaptations (0%)

0 voted this recommendation as not implementable (0%)

13 out of 14 (92.86%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 6:

*Table 6: suggested adaptations and responses to recommendation 6*

Respondent	Response and comments
6	COMMENT - overlap/ duplication
10	COMMENT - Obvious overlap with other parts of the guideline so may align better to that section rather within Environmental and Social factors but clearly this recommendation should be supported.
13	COMMENT - Funding and geographical variations in practice still limit access to CGM

### Recommendation 7

**Recommendation:** If there are concerns about the way a person is using the CGM device:

- ask if they are having problems using their device
- look at ways to address any problems or concerns to improve their use of the device, including further education and emotional and psychological support.

[STRONG RECOMMENDATION]

**Source guideline:** National Institute for Health and Care Excellence (NICE). NG17 - Type 1 diabetes in adults: diagnosis and management (recommendation 1.6.17, page 20) (<https://www.nice.org.uk/guidance/ng17/resources/type-1-diabetes-in-adults-diagnosis-and-management-pdf-1837276469701>)

**Country and date of publication:** UK, 2022

**Guideline quality rating:** Rigour of development 98%, Editorial independence 100%, Stakeholder involvement 98%

**Additional notes:** Rationale available in NICE Evidence Review B (pages 52-54).  
<https://www.nice.org.uk/guidance/ng17/evidence/b-continuous-glucose-monitoring-in-adults-with-type-1-diabetes-pdf-11013435182>

Of 14 respondents:

14 voted this recommendation as acceptable (100%)

0 voted this recommendation as unacceptable (0%)

12 voted this recommendation as implementable (85.71%)

2 voted this recommendation as implementable with adaptations (14.29%)

0 voted this recommendation as not implementable (0%)

14 out of 14 (100%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 7:

*Table 7: suggested adaptations and responses to recommendation 7*

Respondent	Response and comments
9	ADAPTATION - "EXPLORE ways WITH THE PERSON"
13	ADAPTATION - There is still a limitation in access to diabetes specific psychological services in many areas.
6	COMMENT - Is this not already done as part of the review to continue with CGM ? Do we need to have it as a recommendation?
10	COMMENT - As before a strong recommendation albeit it may sit better in another section of the guideline.

Recommendation 8

**Recommendation:** Commissioners, providers and healthcare professionals should address inequalities in CGM access and uptake by:

- monitoring who is using CGM
- identifying groups who are eligible but who have a lower uptake
- making plans to engage with these groups to encourage them to consider CGM

[STRONG RECOMMENDATION]

**Source guideline:** National Institute for Health and Care Excellence (NICE). NG17 - Type 1 diabetes in adults: diagnosis and management (recommendation 1.6.18, page 21) (<https://www.nice.org.uk/guidance/ng17/resources/type-1-diabetes-in-adults-diagnosis-and-management-pdf-1837276469701>)

**Country and date of publication:** UK, 2022

**Guideline quality rating:** Rigour of development 98%, Editorial independence 100%, Stakeholder involvement 98%

**Additional notes:** Rationale available in NICE Evidence Review B (pages 52-54). (<https://www.nice.org.uk/guidance/ng17/evidence/b-continuous-glucose-monitoring-in-adults-with-type-1-diabetes-pdf-11013435182>)

Of 14 respondents:

14 voted this recommendation as acceptable (100%)

0 voted this recommendation as unacceptable (0%)

13 voted this recommendation as implementable (92.86%)

1 voted this recommendation as implementable with adaptations (7.14%)

0 voted this recommendation as not implementable (0%)

14 out of 14 (100%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 8:

*Table 8: suggested adaptations and responses to recommendation 8*

Respondent	Response and comments
10	ADAPTATION - Need to be mindful of the term 'Commissioners' and as such may need adaption to make it applicable to a Scottish guideline.

10	COMMENT - This is a key recommendation to ensuring Equity of Access of diabetes related technologies.
12	COMMENT - Health board can get this off SciDC ad then target patients needing support.
13	COMMENT - Funding remains a barrier to this recommendation.

The following recommendations relate to environmental and social factors affecting optimisation of glucose control in children and young people with type 1 diabetes.

## SOCIAL DETERMINANTS OF HEALTH AND TAILORING TREATMENT FOR SOCIAL CONTEXT

### Recommendation 9

**Recommendation:** Providers should assess food security, housing stability/ homelessness, health literacy, financial barriers, and social/ community support and apply that information to treatment decisions.

[GRADE E]

**Source guideline:** American Diabetes Association Professional Practice Committee. 14. Children and Adolescents: Standards of Medical Care in Diabetes-2022. Diabetes Care. 2022 Jan 1;45(Supplement\_1):S208-31. (recommendation 14.12, page S212) ([https://diabetesjournals.org/care/article/45/Supplement\\_1/S208/138922/14-Children-and-Adolescents-Standards-of-Medical](https://diabetesjournals.org/care/article/45/Supplement_1/S208/138922/14-Children-and-Adolescents-Standards-of-Medical))

**Country and date of publication:** USA, 2022

**Guideline quality rating:** Rigour of development 79%, Editorial independence 92%, Stakeholder involvement 55%

**Additional notes:** While this recommendation is similar to recommendation 1, it applies specifically to children and young people and is based on expert opinion.

Of 14 respondents:

13 voted this recommendation as acceptable (92.86%)

1 voted this recommendation as unacceptable (7.14%)

Of the 13 respondents who voted this recommendation as acceptable:

10 voted this recommendation as implementable (76.92%)

2 voted this recommendation as implementable with adaptations (15.38%)

1 voted this recommendation as not implementable (7.69%)

13 out of 14 (92.86%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 9:

*Table 9: suggested adaptations and responses to recommendation 9*

<b>Respondent</b>	<b>Response and comments</b>
5	ADAPTATION - Needs to take into account partner agencies such as local authorities, in the Scotland context.
14	ADAPTATION - We would need more structures (questionnaires or check lists) to obtain and update this information.
1	COMMENT - Time to advocate for a social worker in every clinic to assess the social determinants of health and get families the access to support if they need it, as we have such clear evidence that social determinants of health impact on diabetes outcomes.
2	COMMENT - Duplication of recommendation 1?
3	COMMENT - Similar to recommendation 1 - this assessment could be very subjective and relies on individuals being willing and able to discuss such things.
9	COMMENT - As per comments from adult question
10	COMMENT - As per comments around adult guidance.
11	COMMENT - See comment on recommendation 1.
12	COMMENT - The evidence base isn't strong, but it is logical to apply this recommendation to family situation - for reasons given in question one it will be tricky to implement but within paed's there may be more support with social services / food poverty being addressed through some government schemes.

## DIABETES TECHNOLOGIES AND SOCIAL DETERMINANTS OF HEALTH / INEQUALITIES

### Recommendation 10

**Recommendation:** If the child or young person is not using their CGM device at least 70% of the time:

- ask if they are having problems with their device
- look at ways to address any problems or concerns to improve their use of the device, including further education and emotional and psychological support.

[STRONG RECOMMENDATION]

**Source guideline:** National Institute for Health and Care Excellence (NICE). NG18 - Diabetes (type 1 and type 2) in children and young people: diagnosis and management (recommendation 1.2.69, page 69)  
(<https://www.nice.org.uk/guidance/ng18/resources/diabetes-type-1-and-type-2-in-children-and-young-people-diagnosis-and-management-pdf-1837278149317>)

**Country and date of publication:** UK, 2015 (2022 update)

**Guideline quality rating:** Rigour of development 98%, Editorial independence 100%, Stakeholder involvement 98%

**Additional notes:** Note that there is some discussion of the evidence rationale for this recommendation on page 59 of the guideline. Full evidence review is available at <https://www.nice.org.uk/guidance/ng18/evidence/b-continuous-glucose-monitoring-in-children-and-young-people-with-type-1-diabetes-pdf-11011942190>

Of 14 respondents:

14 voted this recommendation as acceptable (100%)

0 voted this recommendation as unacceptable (0%)

12 voted this recommendation as implementable (85.71%)

2 voted this recommendation as implementable with adaptations (14.29%)

0 voted this recommendation as not implementable (0%)

14 out of 14 (100%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 10:



Table 10: suggested adaptations and responses to recommendation 10

Respondent	Response and comments
4	ADAPTATION – In the case of young children it's often parents who discuss who support and drive decision-making re: use of CGM devices, and, hence, sometimes the issues would need to be explored with parents rather than a young child.
13	ADAPTATION - We need to improve access to diabetes specific psychological support.
6	COMMENT - Is this not already done routinely?
10	COMMENT - Again I feel this should sit elsewhere in the guideline.

### Recommendation 11

**Recommendation:** Commissioners, providers and healthcare professionals should address inequalities in CGM access and uptake by:

- monitoring who is using CGM
- identifying groups who are eligible but who have a lower uptake
- making plans to engage with these groups to encourage them to consider CGM.

[STRONG RECOMMENDATION]

**Source guideline:** National Institute for Health and Care Excellence (NICE). NG18 - Diabetes (type 1 and type 2) in children and young people: diagnosis and management (recommendation 1.2.69, page 69)  
<https://www.nice.org.uk/guidance/ng18/resources/diabetes-type-1-and-type-2-in-children-and-young-people-diagnosis-and-management-pdf-1837278149317>

**Country and date of publication:** UK, 2015 (2022 update)

**Guideline quality rating:** Rigour of development 98%, Editorial independence 100%, Stakeholder involvement 98%

**Additional notes:** While this recommendation is similar to recommendation 8, it applies specifically to children and young people. Note that there is some discussion of the evidence rationale for this recommendation on page 60 of the guideline. Full evidence review is available at <https://www.nice.org.uk/guidance/ng18/evidence/b-continuous-glucose-monitoring-in-children-and-young-people-with-type-1-diabetes-pdf-11011942190>

Of 14 respondents:

14 voted this recommendation as acceptable (100%)

0 voted this recommendation as unacceptable (0%)

12 voted this recommendation as implementable (85.71%)

2 voted this recommendation as implementable with adaptations (14.29%)

0 voted this recommendation as not implementable (0%)

14 out of 14 (100%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 11:

*Table 11: suggested adaptations and responses to recommendation 11*

Respondent	Response and comments
10	ADAPTATION – Amend the term Commissioners.
13	ADAPTATION - Funding and geographical variation in practice limit the implementation of this recommendation
2	COMMENT - Duplication of recommendation 8?
10	COMMENT - As per comment on adult guidance.

### Recommendation 12

**Recommendation:** Students must be supported at school in the use of diabetes technology including continuous subcutaneous insulin infusion, connected insulin pens, and automated insulin delivery systems as prescribed by their diabetes care team.

[GRADE E]

**Source guideline:** American Diabetes Association Professional Practice Committee. Draznin B, Aroda VR, Bakris G, Benson G, Brown FM, Freeman R, Green J, Huang E, Isaacs D, Kahan S, Leon J. 7. Diabetes Technology: Standards of Medical Care in Diabetes-2022. *Diabetes Care*. 2022 Jan 1;45(Supplement\_1):S97-112. (recommendation 7.4, page S98)

([https://diabetesjournals.org/care/article/45/Supplement\\_1/S97/138911/7-Diabetes-Technology-Standards-of-Medical-Care-in](https://diabetesjournals.org/care/article/45/Supplement_1/S97/138911/7-Diabetes-Technology-Standards-of-Medical-Care-in))

**Country and date of publication:** USA, 2022

**Guideline quality rating:** Rigour of development 79%, Editorial independence 92%, Stakeholder involvement 55%

Of 14 respondents:

13 voted this recommendation as acceptable (92.86%)

1 voted this recommendation as unacceptable (7.14%)

Of the 13 respondents who voted this recommendation as acceptable:

10 voted this recommendation as implementable (76.92%)

3 voted this recommendation as implementable with adaptations (23.08%)

0 voted this recommendation as not implementable (0%)

14 out of 14 (100%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 12:

*Table 12: suggested adaptations and responses to recommendation 12*

<b>Respondent</b>	<b>Response and comments</b>
5	ADAPTATION – The terminology needs to change. Is students the correct phrase to use in Scotland?
9	ADAPTATION – As and when appropriate
12	ADAPTATION – The evidence base for this recommendation isn't great but at the same time it's common sense. Young persons spend a considerable part of their time in education. Hence the evidence states they need to wear CGM > 70% time ideally so they need to wear throughout education periods.
2	COMMENT - "Must be supported" may be deliberately ambiguous, as the level of expectation re: support required varies hugely across families and schools, and there is often a mismatch between what is desired and what can be provided. There won't be a "one size fits all approach", but should we be suggesting minimal expectations e.g. checking glucose levels prior to food, data entry (i.e. carbs) into diabetes device etc?
4	COMMENT - Yes but surely school staff will need appropriate training and support.
6	COMMENT - Who supplies this support and why specifically at school?
10	COMMENT - School/further education can be a very challenging area for children and young adults with T1DM therefore the inclusion of a recommendation that specifically addresses this area albeit with a relatively low Grade would still be welcome.
11	COMMENT - This is very much needed, not only in primary school but in high school too. High school staff need to be aware of diabetes and diabetes tech so that pupils with T1D can have the confidence to use their diabetes tech without being questioned/criticised/told off by the teacher and therefore embarrassed in front of the whole class. Next time, the pupil is less likely to manage their diabetes, putting their health at risk because of the previous negative experience, and the hard work which has gone in by their diabetes team and family to encourage them to manage diabetes in school is wasted.

Recommendation 13

**Recommendation:** It is recommended that all children and adolescents with DM should be given age and culturally appropriate education and guidance for physical activity and lifestyle modification.

[GRADE A; Best Evidence Level 1]

**Source guideline:** American Association of Clinical Endocrinology Clinical Practice Guideline: Developing a Diabetes Mellitus Comprehensive Care Plan—2022 Update. Endocrine Practice, Vol: 28, Issue: 10, Page: 923-1049. (recommendation 18.2, page 993) ([https://www.endocrinepractice.org/article/S1530-891X\(22\)00576-6/fulltext](https://www.endocrinepractice.org/article/S1530-891X(22)00576-6/fulltext))

**Country and date of publication:** USA, 2022

**Guideline quality rating:** Rigour of development 92%, Editorial independence 92%, Stakeholder involvement 43%

**Additional notes:** Most evidence supporting this recommendation involves individuals with type 2 diabetes.

Of 14 respondents:

13 voted this recommendation as acceptable (92.86%)

1 voted this recommendation as unacceptable (7.14%)

Of the 13 respondents who voted this recommendation as acceptable:

12 voted this recommendation as implementable (92.31%)

1 voted this recommendation as implementable with adaptations (7.69%)

0 voted this recommendation as not implementable (0%)

13 out of 14 (92.86%) respondents voted that this recommendation was acceptable so consensus has been reached. This recommendation will be included in the draft guideline. The environmental and social factors subgroup will discuss the context in Scotland and any supporting information which may help with implementation.

Respondents' suggested adaptations and other comments are detailed in table 13:

*Table 13: suggested adaptations and responses to recommendation 13*

Respondent	Response and comments
2	ADAPTATION – Would be good to provide links to appropriate content.
9	COMMENT - Does this fit in SDOH as per WHO definition? If it is around education then physical activity can be explored in the context of the persons life as it sounds quite prescriptive above (ie you need to be doing x amount of PA per week). Something around access to supported self management, including physical activity levels, and to change behaviours impacting ability to self-management or similar. Also appropriate for adults.

10	COMMENT - The impact of exercise and lifestyle on T1DM is very important. Inclusion of a recommendation albeit with low level of Grading would still be welcome.
14	COMMENT - We don't currently formally record this within SCID. Should we consider a questionnaire once a year?