Meeting date:	13 June 2022
Paper number:	A
Title:	SHTG Council Minutes from 6 Dec 2021
Purpose:	FOR INFORMATION

Background

This paper reports the minutes of the previous meeting.

Action required

Review for accuracy and approve.

Minutes

Scottish Health Technologies Group

Date 6 Dec 2021 13:00-16:00
Venue: MS Teams

Attendance

Council Members

1. **Dr Neil Smart**, Council Chair, Consultant Anaesthetist, NHS GG&C
2. **Dr Ali Mehdi**, Council Vice Chair, Consultant Orthopaedic and Trauma Surgeon, NHS Borders
3. **Mr Ed Clifton**, SHTG Unit Head, Healthcare Improvement Scotland (HIS)
4. **Dr Safia Qureshi**, Director of Evidence, HIS
5. **Dr Rodolfo Hernandez**, Research Fellow at HE Research Unit, University of Aberdeen
6. **Dr Karen Facey**, Evidence Based Health Policy Consultant
7. **Mr Mark Cook**, Director of Re-imbursement and Government Affairs, Assn. of British Healthcare Industries
8. **Mr Colin Marsland**, Director of Finance, NHS Shetland
9. **Mr Jim Miller**, Chief Executive, NHS 24
10. **Ms Claire Fernie**, HIS Public Partner
11. **Mr Hugh Stewart**, HIS Public Partner
12. **Dr Laura Ryan**, Medical Director, NHS 24, Scottish Patient Safety Fellow
13. **Ms Karen MacPherson**, Lead Health Service Researcher, HIS
14. **Ms Katie Hislop**, Healthcare Quality and Improvement Directorate, DG Health & Social Care, Scottish Government

Apologies

Dr Paul Campbell, Council Vice-Chair, Clinical Director, Clinical Informatics, National Services Scotland

Presenters

15. **Jenny Harbour**, Health Service Researcher, SHTG Team, HIS
16. **Maria Dimitrova**, Senior Health Economist, Evidence Directorate, HIS
17. **James Stewart**, Public Involvement Advisor, SHTG Team, HIS

Clinical Experts

18. **Brian Kennon,** Consultant in Diabetes & Endocrinology, National Lead for Diabetes, Specialty Adviser to CMO Diabetes & Endocrinology, Queen Elizabeth University Hospital, Glasgow
19. **Fraser Gibb**, Consultant Endocrinologist, Royal Infirmary of Edinburgh

Patient Group Representatives

20. **Liz Perraudin**, Senior Policy Officer, Diabetes UK
21. **Alison Grant**, Engagement Manager for Scotland, Diabetes Scotland
22. **Rachael Chrisp**, Policy and Public Affairs Manager, Juvenile Diabetes Research Foundation (JDRF)
23. **Mary Moody**, Chair, Insulin Pump Awareness Group (iPAG) Scotland

Observers

24. **Catherine Carver**, PhD student, University of Edinburgh
25. **Tomas Muniz**, Senior Health Information Scientist, Knowledge Management Team, Evidence Directorate, HIS
26. **Teresa Marshall**
27. **Justine Clark**
28. **Lorna Thompson**, Health Services Researcher, HIS
29. **Neil Anand**, Senior Health Economist, Evidence Directorate, HIS

Organisers

30. **Jess Kandulu**, Programme Manager, SHTG Team, HIS
31. **Mary Michael**, Project Officer, SHTG Team, HIS
32. **Shona Cowan**, Admin Officer, SHTG Team, HIS

Item No	**Item**
1	**Welcome and opening remarks** The Chair welcomed members to the meeting and noted Jim Miller has recently joined the council and is attending his first meeting. Hugh Stewart is demitting from the group after his term as public partner comes to an end. The Chair thanked Hugh for his contribution to SHTG Council. Apologies from Paul Campbell were noted. The meeting was noted as quorate. *(Quorum is 50% plus one member.)* Observers, clinical experts and patient representatives welcomed. Previous minutes were formally accepted. Action notes from the previous meeting were noted: • Heart flow paper has been completed and published. • Hernia Mesh is due to be published week commencing 6 December.
2	**Declarations of Interest** For the specific topic of 'Closed loop systems and the artificial pancreas', interests were declared by Mark Cook (specific, personal, financial interest) and Hugh Stewart (specific personal, non-financial interest). The Chair advised that Mark and Hugh would not participate in the closed session for formulating recommendations, owing to their specific interest in the technology under review.
3	**Closed-loop systems and the artificial pancreas** The Chair introduced the topic, noting that the role of the Council was to reach recommendations on the use of the technology, taking into account the evidence and information presented during the meeting (including published literature, patient group submissions, clinical expert commentary, and an economic model). **Review of published evidence and economic modelling** The health service researcher and senior economist presented key points from the review of the published literature, alongside the findings of an economic model which had been utilised by SHTG for the purpose of this assessment.

Following the presentations, additional clarifications were provided following questions from Council members:

- costs have been inflated to the most recent year costs using the NHS cost inflation index (PSSRU, 2020).
- the utility decrement is applied annually (rather than a one-off); it was obtained from a quality-of-life study in patients with diabetes and has been used in other validated diabetes economic models.
- the economic analysis was based on the best available model of the association of HbA1c levels and long-term diabetes-related complications, based on key UK clinical trials. Long-term epidemiological data were not identified in the literature specifically for Scotland.

Clinical expert commentary

Two clinical experts provided commentary on the technology from their clinical perspective. Points of note included:

- Closed-loop systems are anticipated to play a key role in future care models.
- Time in range measures are increasingly used to support care decisions.
- The rapid development of diabetes technologies tends to outpace the published evidence supporting use.
- Scotland may be lagging behind other countries in terms of availability of diabetes technologies.
- Closed-loop systems have clear potential to improve care and outcomes and are likely to be less resource intensive for the person managing their diabetes.
- There is real time data available to drive care models and future economic assessments.
- Inequity of access to diabetes technologies. A higher percentage of affluent socio-economic group likely to access technologies compared with less affluent groups. The latter group are more likely to require, and benefit from, closed-loop systems.
- Dual hormone 'artificial pancreas' technologies are on the horizon. Future assessments should capture technological developments and the most up-to-date outcome data as they become available.

A Council member queried security of data held on similar devices and risks of hacking. Clinical experts responded that this has been addressed by manufacturers and is not considered a risk.

Patient Organisation Presentations

Three patient organisations provided commentary on the technology from their patient perspective. Points of note included:

Diabetes UK

- Diabetes is an unrelenting condition and effective management requires over 180 health related decisions a day, many of which require proficiency in mathematical calculation.
- People must be good at maths to manage diabetes.
- There is a lack of access to technology with a 2-tier system being created
- There is a need to widen access to Closed Loop Technology.
- Feedback from users of closed loop technologies shows that it can transform

lives, due to a range of benefits from thinking less about managing diabetes to parents being able to monitor their child who has diabetes more effectively during the night.

JDRF

- Highlighted the physical benefits of closed loop which includes improved HbAc1 stability, reduction in likelihood of hypos and hypers and reduction in long term complications. A range of mental health benefits were also discussed.
- Benefits of closed loop for children with T1D and families include parents being able to remotely monitor their child's levels and it is less stressful for children than blood tests.
- Societal and economic benefits were also discussed and this considered various factors including the long-term cost savings for the NHS, due to a reduction in health complications,

IPAG

- Data from the Scottish Diabetes Surveys show that based on HbA1c, only around one quarter of the T1D population achieve what is defined as acceptable control – for the remaining nearly three quarters BG levels were sub-optimal or poor.
- All closed loop users experience major quality of life benefits regardless of their previous levels of controls.
- A range of experiences from people with diabetes was highlighted, considering the emotional and physical toll it can take.
- Maintaining control over BG levels requires hundreds of adjustments each day and it is only possible to do when aided by closed loops systems.

Council Discussion

During the discussion that follows, the Chair asked for any points of clarification on the key evidence points presented to Council. Clarifications included:

- Reference to 'in range' to be clarified as 'in normal glycaemic range'.
- There is no published real-world data for Scotland as there are not enough people in Scotland on closed loop systems currently. The existing SCI Diabetes database is well placed to generate data in the future regarding closed loop systems.
- Clarify where the evidence relates to 'published literature'.
- Referencing where 'other views and experiences' relates to closed loop devices.
- Requirement for a stronger summary point on the overarching themes from the patient submissions
- Members asked for an extra point on organisational issues/context interaction with systems.
- Avoiding the word 'likely' around cost-effectiveness - which otherwise implies probabilistic sensitive analyses (which were not carried out).

Council considerations were captured as follows:

- The Council acknowledged that closed loop systems are a rapidly advancing technology, and that consequently some of the evidence reviewed in this document may relate to devices that have since been superseded by more

advanced models.

- Particular reference was made to the fact that the evidence base includes people with previously well-controlled type 1 diabetes… The Council recognised that the capacity to benefit from hybrid closed loop systems may be greater for people with previously poorly controlled type 1 diabetes.
- The Council were advised by clinical experts that very few people in Scotland with type 1 diabetes currently receive a closed loop system through the NHS.
- When considering cost effectiveness, the Council noted that costs and incremental cost-effectiveness ratios (ICERs) in the economic modelling could be expected to be lower in future, particularly if discounts were agreed between NHS National Procurement and device manufacturers.
- Clinical experts highlighted that time spent in target glucose range has been internationally agreed to be glucose levels between 3.9 and 10.0 mmol/L. Optimal glycaemic control is defined in the Scottish Diabetes Improvement Plan as <58 mmol/mol (9.4 mmol/L) in adults and <48 mmol/mol (7.2 mmol/L) in children.
- The Council discussed the most appropriate way of defining and measuring diabetes-related distress. They agreed that validated tools should be used to facilitate discussions between patients and clinicians about the suitability of closed loop systems for the individual. Appropriate validated tools for measuring diabetes-related distress in people with type 1 diabetes include the Problem Areas In Diabetes (PAID) scale and the Diabetes Distress Scale (DDS type 1 diabetes and DDS parent of teen with type 1 diabetes).
- The Council discussed the lack of clinical data comparing closed loop systems with flash glucose monitoring plus an insulin pump. Consequently, the additional clinical benefit of closed loop systems for people currently using flash glucose monitoring and an insulin pump remains unclear.
- Patient organisations highlighted the daily burden of managing type 1 diabetes and the impact this has on the lives of people with diabetes, with particular reference to the effect it has on physical and mental health including diabetes-related distress and quality of life.
- The Council recognised the mental health and well-being benefits of closed loop systems in addition to their physical health benefits, regardless of people's previous levels of control.
- The Council took note of the link between poor glucose control and the subsequent development of diabetes-related complications, which in addition to the heavy burden placed on patients carries a substantial treatment cost to NHS Scotland.
- The Council recognised there is an ongoing trial of closed loop systems in NHS England that should provide useful data for a future iteration of this document.
- The SCI-Diabetes database already provides a fully integrated shared electronic patient record of population level data for all people with diabetes in Scotland. SCI-Diabetes should be used for the robust capture of data, to facilitate decision-making and real world assessment of diabetes technologies across NHS Scotland.

The Chair thanked all clinical experts and representatives from patient groups for their contribution to the meeting.

Closed session:

When formulating the recommendations, the Council considered the published evidence, the SHTG economic modelling work, insights provided by clinical experts, and submissions from three patient organisations.

Changes to the recommendation were discussed and agreed, and would be circulated to Council members for approval.

4 **Scottish Government Report**

The representative of Scottish Government offered to provide an update via email of a proposed policy framework for the consideration of health technologies across Scotland.

5 **Chair's update report**

The chair presented an update on membership, feedback from previous meetings and recent SHTG activity.

6 **Evidence Directorate Update**

The Director of Evidence provided a brief overview of recent HIS Evidence activity which is relevant to SHTG and health technologies:

- Invitation for SHTG to think about how they work with the new Centre for Sustainable Delivery, particularly around innovation.
- Ways of Working and HIS test of change plan scheduled to commence 17th Jan 2022 with a 6 months trial period.
- The HIS Executive Team provided support for SHTG involvement in a GB-wide Innovative Devices Access Pathway (IDAP). Support was also provided for the development of the SG policy framework on the consideration of health technologies across Scotland – which will now be presented to the HIS Quality and Performance Committee for consideration.
- There is scope to review and strengthen how SHTG takes on new work, given that the directorate Work Programme Committee, which meets bi-annually, did not feature new work for SHTG.

Future updates will be provided in writing in order to facilitate members' subsequent communication within their stakeholder networks.

Closing Business

7 Chair gave final thanks to all for their contribution to the meeting.

Date and time of next meeting

Monday 13 June 2022 13.00 – 16:00 MS Teams

Contact: his.shtg@nhs.scot