



# Management of Steroid-Induced Hyperglycaemia (SIH) in primary care: Care Experiences and views of Patients, their relatives and clinicians



**Steroid-induced hyperglycaemia (SIH)** presents challenges after hospital discharge, particularly as steroid doses reduce and hypoglycaemia risk increases. However, experiences of care provision after discharge are under-reported. We conducted a study to better understand the experiences of patients, family and clinicians managing SIH and how technology could help improve care.

## Methods

We interviewed patients with diabetes who required inpatient team input at East Surrey Hospital for SIH between February 2022 and March 2023, as well as their relatives and clinicians, to gather their views on practices and experiences of care, and to collect feedback on how to improve it. We systematically searched for literature published from 2014 to 2024 on the potential of technology in aiding the management of SIH.

## Results

We interviewed 23 patients (60% male, aged 40 – 88 years). The median (IQR) glucocorticoid daily dose (prednisolone-equivalent) was 40 mg (20-60). Fifteen (65%) patients were followed up after discharge by the diabetes specialist team, the remainder being referred to primary care. Nine family members and five diabetes care clinicians were also interviewed.

Ten publications were included in the review. These reported on continuous glucose monitoring (CGM) of different kinds (n = 8), flash glucose monitor (n = 1) and treatment decision aid system (n = 1).

## Interviews revealed:

1. Patients and families are worried and concerned about SIH, if and when they will be alright, and incidences of hypoglycaemia (adverse events) were reported.
2. Patients and families have limited capacity and confidence to self-manage SIH, which impacts negatively on their health and social well-being, particularly those with co-morbidities.
3. Patients and families highlighted limited follow-up and conflicting information received from different care teams regarding SIH, particularly those with co-morbidities.
4. Clinicians from primary care have limited capacity to efficiently manage patients with SIH; thus, the care responsibility remains with hospital clinicians. And this was reported to increase their clinical workloads.
5. There is insufficient communication between multiple care teams regarding the management of SIH.
6. Patients and families use technology (internet) primarily as information on signs and symptoms, medication usage and dietary choice; for communication with clinicians; and monitoring blood glucose levels.

## Conclusion and recommendations for optimal care

1. Improve care pathways with the implementation of robust, individualised written care plans for SIH.
2. Provision of training and sharing of skills, resources and good communication between multidisciplinary teams.
3. Improve follow-up of patients when out of hospital and provision of patients' point of contact for SIH-related concerns
4. Technology could be leveraged to improve/aid management of SIH



### Public and Community Involvement:

The research topic was identified as relevant through consultation with clinicians and people with first-hand experience of SIH. They shared their perspective on the significance and impact of the problem on individuals' well-being, social lives, and healthcare services.

The health care team and a patient with lived experience advised on the data collection method, whereby a flexible face-to-face or virtual in-depth interview was deemed a more practical approach for this study.

We conducted a patient and public involvement (PPI) workshop on Monday, 22<sup>nd</sup> May and Wednesday, 24<sup>th</sup> May 2023, over Zoom to offer a wider opportunity of attending, in which people with lived experience contributed to the interpretation of data and setting priorities for the next step. We offered technical support to those who needed help with Zoom access, and one individual was assisted. In total, five patients engaged and attended a 90-minute workshop as planned, and each was compensated with £35 worth of gift vouchers for their time. At the end of this, we identified priorities to carry forward

### Dissemination:

An abstract was submitted and presented as a poster to the 2023 Annual Meeting of the ABCD Diabetes Technology Network on 6<sup>th</sup> September 2023 in Edinburgh.

The findings were also presented in-person to the Diabetes care team meeting at East Surrey Hospital on the 11<sup>th</sup> October 2023.

A film was created to communicate the findings of the study and gauge further engagement with stakeholders, with first-hand experiences of SIH. This will be uploaded to ARC KSS and individuals' social media and shared for wider reach.

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### Impact and Implementation:

This study has highlighted considerations for improving care and management of SInHG out of hospital. This includes, but is not limited to, having readily accessible patient-facing guidance materials for self-management and an individualised care plan for SInHG as identified through patients' PPI workshop. From clinicians' perspective, having a detailed discharge care plan for SInHG and having this communicated with Primary care teams was thought to be helpful.

However, these findings are not yet implemented in practice; instead, they will be used as the basis of a grant application (the next step) to secure bigger funding to investigate how technology can be leveraged to implement the identified aspects.

### Publications

The abstract presented to the ABCD conference will be published in the next issue of the British Journal of Diabetes.

There are two manuscripts in preparation:

1. *Experiences of patients, families, and clinicians managing steroid-induced hyperglycaemia out of hospital: a qualitative study*

This was submitted to Diabetic Medicine, an official journal of Diabetes UK, with an impact factor of 3.5, in September 2024. The manuscript was sent back in June 2025 for revision and resubmitted in July 2025.

2. *Management of Steroid-induced hyperglycaemia: Could technology help? Findings from the interview and scoping review of literature.*

To be submitted to the BMJ Open Diabetes Research & Care, an open-access diabetes journal. Impact factor 4.1, timeline December 2025.