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Diabetes UK Position Statements

Guidelines for the management of diabetes in care homes during the Covid-19 pandemic

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Abstract

The National Diabetes Stakeholders Covid-19 Response Group was formed in early April 2020 as a rapid action by the Joint British Diabetes Societies for Inpatient Care, Diabetes UK, the Association of British Clinical Diabetologists, and Diabetes Frail to address and support the special needs of residents with diabetes in UK care homes during Covid-19. It was obvious that the care home sector was becoming a second wave of Covid-19 infection and that those with diabetes residing in care homes were at increased risk not only of susceptibility to infection but also to poorer outcomes. Its key purposes included minimising the morbidity and mortality associated with Covid-19 and assisting care staff to identify those residents with diabetes at highest risk of Covid-19 infection. The guidance was particularly created for care home managers, other care home staff, and specialist and non-specialist community nursing teams. The guidance covers the management of hyperglycaemia by discussion of various clinical scenarios that could arise, the management of hypoglycaemia, foot care and end of life care. In addition, it outlines the conditions where hospital admission is required. The guidance should be regarded as interim and will be updated as further medical and scientific evidence becomes available.

Keywords Diabetes, care homes, Covid-19, residents, frailty, insulin

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Introduction

The epidemiology of Covid-19 incidence, severity of illness and mortality seem to be shifted towards older people particularly those with multiple comorbidities such as diabetes, hypertension, and cardiovascular disease [1,2]. This will of course challenge the effective delivery of diabetes care within national diabetes services globally [3].

Care-home residents with diabetes account for a quarter of all residents [4] and the increased likelihood that their illness will be complex to manage has raised concerns that a higher quality of diabetes care is urgently needed [5]. More than half of residents will be frail and those with lowered nutritional status and reduced immune competence will be at increased risk of infection and mortality [6]. The combination of advanced age, frailty and diabetes creates a triple hazard for vulnerability to Covid-19 infection which highlights the plight of those with these factors residing in care homes [7]. This vulnerability is enhanced due to the close proximity of residents to others within the same facility.

The quality and extent of current diabetes care practices within care homes are varied depending on resources available, degree of staff training and expertise in diabetes care, and the level of support by communication and liaison with community nurses, both diabetes specialist and non-specialist. A previous England-wide audit of diabetes care in care homes led by the Institute of Diabetes in Older People (IDOP) and ABCD revealed a lack of comprehensive assessment, monitoring and specialist care within these settings [8]. Guidance for Care Quality Commission (CQC) Inspectors of care homes in relation to standards of diabetes care was recently issued [9]. As a consequence of Covid-19, it is not hard to imagine the need for increased support and guidance for managing Covid-19 positive residents with diabetes who would be at a risk of rapid metabolic

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Novelty statement

- This rapid response guidance represents the first national stakeholder action to address the special needs and vulnerabilities of care home residents with diabetes during Covid-19
- This guidance is designed to support clinical decision-making in care homes and takes into account the availability of skilled personnel and level of care present, and the inevitable limitations on diabetes monitoring
- A set of different clinical scenarios are given covering the various likely situations care staff will face with residents with diabetes who develop Covid-19 and what are the key actions to take to improve outcomes
- The guidance provides an optimal level of diabetes care approach during the exceptional circumstances of this pandemic but the Response Group recognises that care home settings may not be able to fully meet this unprecedented challenge

decompensation leading to diabetic ketoacidosis (DKA) or hyperosmolar hyperglycaemic state (HHS) and consequent dismal outcomes. This created an urgency to provide diabetes management guidance for care home staff tasked with providing front-line services as well as both specialist and non-specialist nursing teams in order to try and reduce the added impact of the infection.

The multidisciplinary *National Stakeholder Covid-19 Response Group* began its task of providing guidance for care home staff in diabetes management in early-April 2020 and was completed on 29 April 2020. It is now available online [10]. It was an initiative shared by the Joint British Diabetes Society for Inpatient Care (JBDS-IP), Diabetes UK, the Association of British Clinical Diabetologists (ABCD),

Box A 1. Main Objectives of the Covid-19 and Diabetes Guidance for Care Homes

A

- Minimise morbidity and mortality from Covid-19 in care home residents with diabetes
- Alert care homes that those residents with diabetes are at very high risk of Covid-19 infection
- Emphasise that those at the highest risk of poor outcomes from Covid-19 are those who have:
  - frailty
  - several existing medical conditions such as cardiovascular disease or respiratory disease
  - diabetes-complications
  - treatment with steroids
  - a life expectancy <6 months
- Maintain the safety of all those living and working within the care home

Box B 2. General Supportive Advice for Care Home Managers

B

- Equip your care home with sufficient capillary blood glucose (sugar) strips (with a meter), and strips for ketones if possible
- Have available a hypoglycaemia treatment kit plus intramuscular (IM) glucagon, and replenishing this every time it is has been used
- Maintain a written record of a resident's blood glucose, medications, temperature, food chart and body weight
- Have a daily foot care surveillance plan in place for all residents with diabetes to ensure good foot health
- Ensure good communication with your local diabetes specialist nurses, the community nursing service, and with your primary care team who want to provide you and your staff with support and guidance at all times

and Diabetes Frail. The main objectives were established early and are listed in Box A and relate to minimising the impact of Covid-19 on morbidity and mortality among care home residents with diabetes, and assist care staff to identify those residents with diabetes at highest risk of infection and poor outcomes. General advice for care home managers to adequately prepare for dealing with the excess burden of Covid-19 in their residents with diabetes is shown in Box B.

A key section of the guidance relates to providing advice to care home staff as a series of different clinical scenarios for those residents with diabetes who have Covid-19 infection: for example, those who are well and stable, unwell on oral agents, unwell on insulin, or those with erratic eating patterns and fluctuating surges of blood glucose [Figure 1]. Additional information for managing insulin treatment in Covid-19 is supported via a website link to the ABCD site [10]

Another key part of this clinical advice is guidance on when to monitor blood glucose more frequently, when to consider altering therapy, and when to seek help from community nursing teams. Asking care staff within care homes to monitor glucose in some urgent scenarios up to 2-4 hourly is an ambitious target of course in view of restricted staff availability and level of skills present, but these are optimum targets and could be realised if extra community support was arranged, boundaries of clinical responsibility re-defined, and all involved staff working towards a common good at this time of a national emergency.

The guidance continues with a schematic management approach to hypoglycaemia including when it is necessary to call an ambulance with a view to hospital admission, and concludes with advisory notes on foot care and end of life diabetes care. The latter assumes crucial importance in this current situation and requires the highest level of skill and compassion from all involved. This advice is supported by a website link to the latest version of national guidance, *End of Life Diabetes Care* by Diabetes UK [11].

The National Stakeholder Covid-19 Response Group will continue to monitor the outcomes of care from the care home

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Suggested Initial Actions in different Clinical Scenarios	
Clinical scenario	**Initial Actions required**
Stable non-Covid-19 resident	Continue usual diabetes treatment; maintain close monitoring for Covid-19 symptoms.
Covid-19 positive and stable resident	Continue usual diabetes treatment even if they have reduced appetite, but regular monitoring is required to avoid high (i.e. ≥12 mmol/l) and low blood sugars (i.e. <4 mmol/l).
Covid-19 positive and unwell resident on oral therapy*	Initially, adjust oral hypoglycaemic medications and ensure regular and frequent testing of blood sugar (2-4 hourlyΔ): A Stop metformin in those with fever and acute illness to minimise risk of lactic acidosis. B Stop SGLT-2 inhibitors** particularly in those with diarrhoea and vomiting due to an increased risk of dehydration and/or DKA C Consider adding a different oral hypoglycaemic treatment as necessary (e.g. linagliptin) D Alert your local diabetes nursing team if sugar levels continue to rise and remain above 12 mmol/l, as commencement of insulin may be necessary at some stage
Covid-19 positive and unwell resident on insulin*	A Seek local diabetes nursing team support/advice for further management; test blood sugar frequently (e.g. 2-4 hourlyΔ) B Continue insulin at usual dose, closely monitor blood glucose (every 2-4 hoursΔ) and depending on insulin regimen present, adjust insulin up or down initially by 2-4 units or as advised by your local diabetes nursing team, every 6 hours if blood sugar outside target range of 7-12mmol/L.*** Δ
Covid-19 positive and unwell resident, unable to take oral therapy*	A Seek local diabetes nursing team support/advice for further management; test blood sugar frequently (e.g. 2-4 hourlyΔ) B Replace oral therapy by a basal long-acting analogue insulin starting at a daily dose of 0.15 units/kg body weight (e.g 0.15 x 80 kg given as 12 units once daily **or** 6 units twice daily). Aim to maintain blood sugar levels within the target range of 7-12 mmol/l.Δ
Covid-19 positive on any therapy but with erratic eating patterns and fluctuating surges of blood glucose*	A Seek local diabetes nursing team support/advice for further management; test blood sugar frequently (e.g. 4-6 hourly) B Continue their usual hypoglycaemic therapy C Short-acting insulin can be given subcutaneously as required in boluses of up to 6 units or greater depending on local diabetes nursing advice, every 6 hours when blood sugar levels are ≥15mmol/L***

FIGURE 1 Suggested initial actions in different clinical scenarios*please liaise with your local community nursing team and/or diabetes specialist nurse for advice to manage the resident; **for example, canagliflozin, dapagliflozin, empagliflozin; ***for more detailed advice, please visit: https://abcd.care/coronavirus; Δ monitoring frequency and glucose target range dependent on shared decision making, staff resources and health status of resident

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sector and review any new emerging scientific evidence. Further work on creating care home-specific guidance on blood glucose monitoring in both routine and urgent clinical situations is being planned.

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