

# Care Home Diabetes: A continuing health and social care challenge

**Professor Alan Sinclair**

No conflicts of interest

# Foundation for Diabetes Research in Older People

## *Our mission and vision 2020-22*

*Director: Professor Alan Sinclair*



WHO

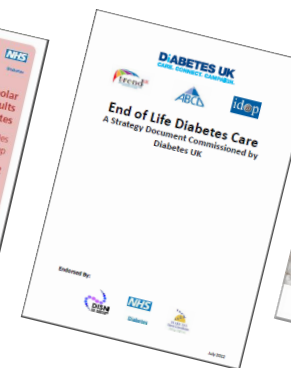
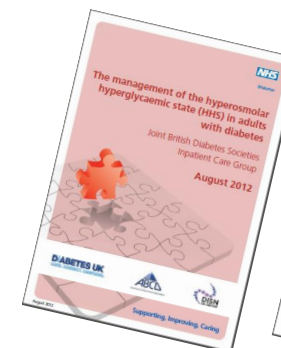


### Our mission

- As a **non-commercial research organisation**, to enhance the quality of diabetes care for older people through new initiatives in clinical practice, audit and research
- To provide a **forum for discussion** between health professionals and scientists, and involve people with diabetes, their carers and families, in programmes which promote their health and well-being
- To examine the relationship between diabetes and related metabolic disorders to the development of **frailty and sarcopaenia**

### Our vision

- Establish sustainable academic partnerships
- Ensure policies and strategies are developed to meet the needs of older people with diabetes and related metabolic disease



At: [www.diabetesfrail.org](http://www.diabetesfrail.org)

# Care Home Diabetes – A Call for Action

*Sinclair AJ, Gadsby R, Abdelhafiz AH, Kennedy M, Diabetic Medicine 2018*

DIABETICMedicine

DOI: 10.1111/dme.13702

## Invited Review

### Failing to meet the needs of generations of care home residents with diabetes: a review of the literature and a call for action

A. J. Sinclair<sup>1</sup> , R. Gadsby<sup>2</sup>, A. H. Abdelhafiz<sup>3</sup> and M. Kennedy<sup>4</sup>

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Accepted 4 June 2018

## Key Messages

- High prevalent disorder – 27%
- Complex illness often present with high hospital admission rates
- UK National Guidance available with Diabetes Policy Template for Care Homes
- Training & Education for Care Staff of Paramount Importance
- More Investment by the NHS (national health service) and Independent Care Home Owners to Improve Diabetes Care

Invited Review

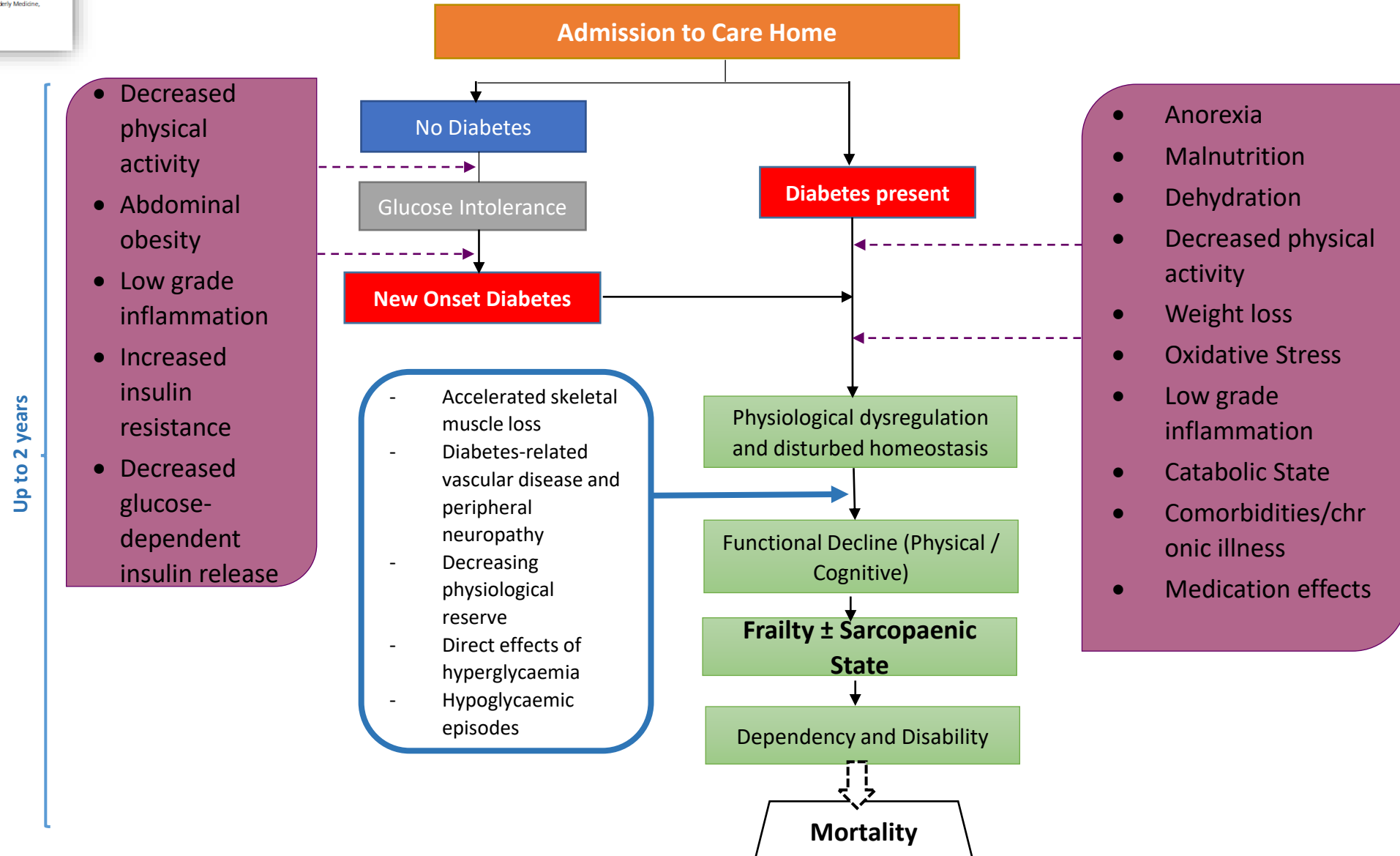
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# Pathophysiological decline in Care Home Residents with Diabetes



# Prevalence of Diabetes Mellitus in Care Homes: *the Birmingham and Newcastle Screening Studies*

*Sinclair AJ, Gadsby R, Croxson SCM et al, Diabetes Care 2001; Aspray et al. Diabetes Care 2006, 29 (3):707-8*

Little evidence of structured diabetes care

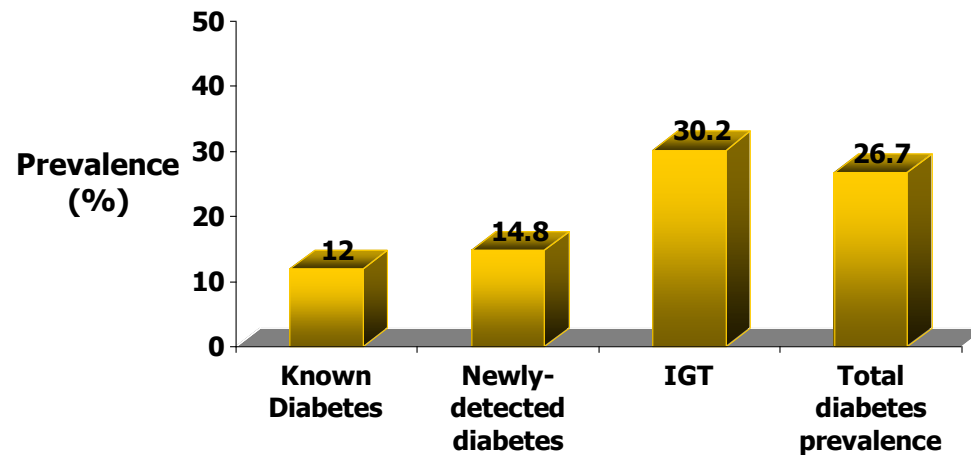
No specialist follow-up

*(Reviewed by Sinclair AJ, Aspray TJ, 2009, Diabetes in Old Age – 3<sup>rd</sup> edition)*

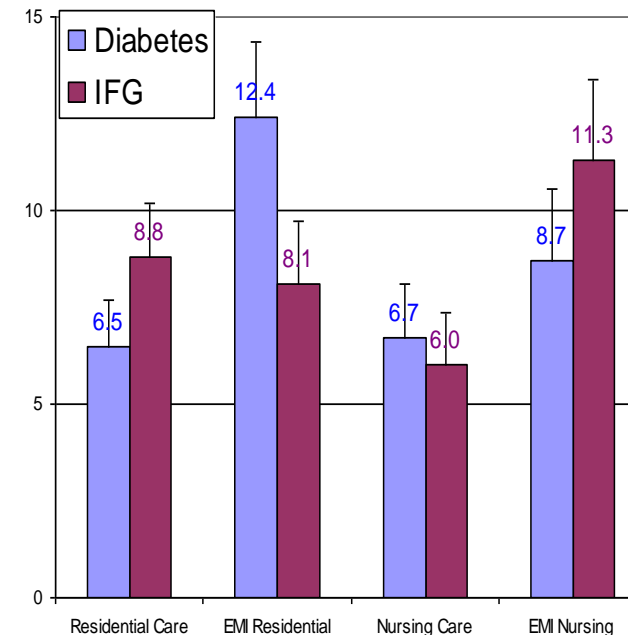
Diabetes is an independent risk factor for admission into a care home

High hospital admission rate with associated high mortality

The Birmingham Study 2001



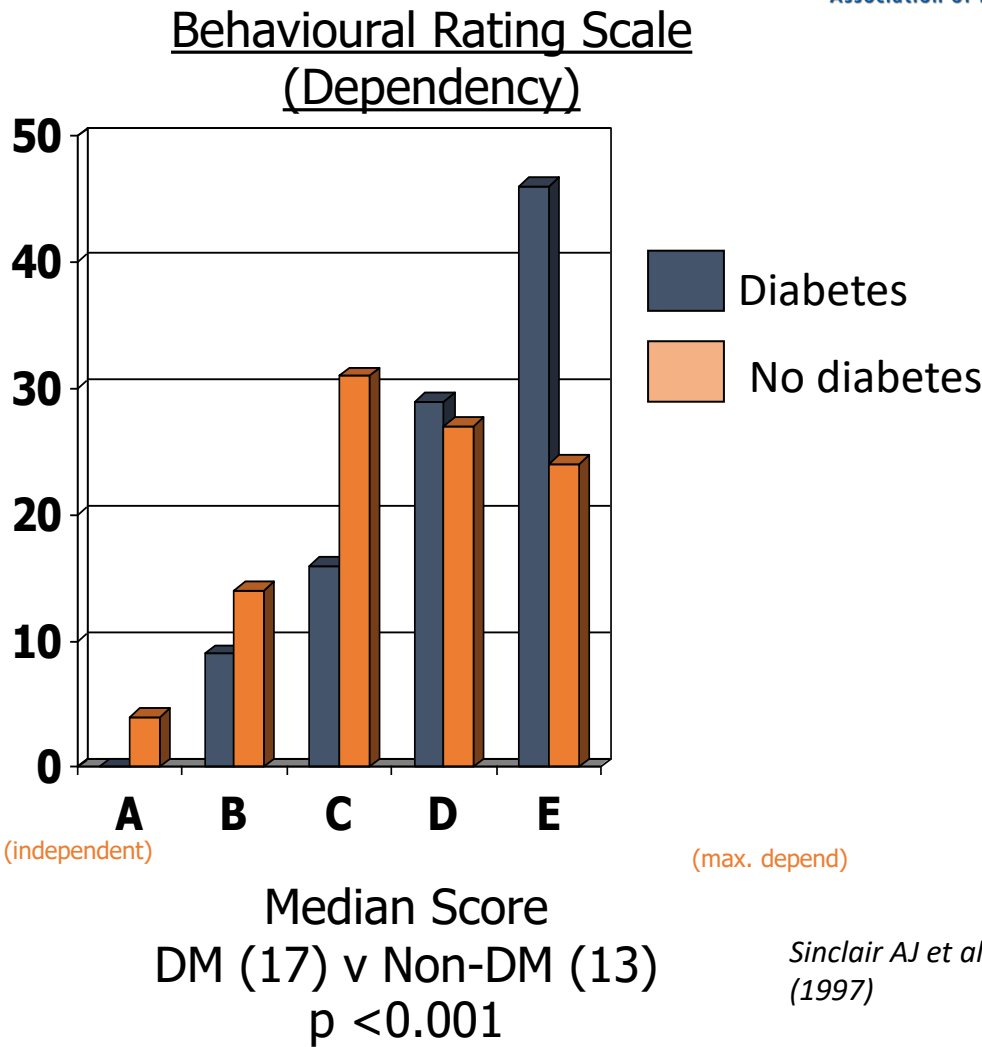
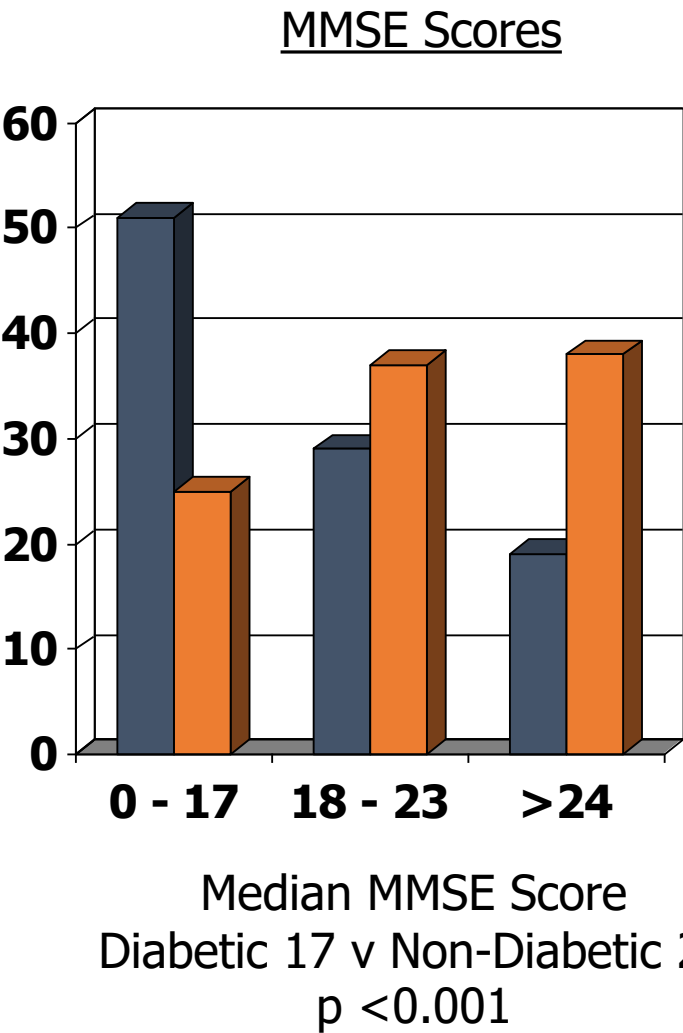
The Newcastle Study 2006



# Diabetes in Care Home Residents – Evidence of High Cognitive Impairment and Dependency Levels



## The South Wales Care Home Diabetes Study



*Sinclair AJ et al. Diabetes Care (1997)*

# Elements of diabetes care for residents – what is usually expected?

*Sinclair AJ et al, Diabetic Medicine (2019)*



- To receive plenty of oral fluids to maintain a good state of hydration
- To maintain a daily appropriate exercise and nutritional plan with regular meals or, if appetite reduced, have food 'little and often'
- To receive their usual diabetes care and treatments part of an individualised care plan
- To receive support and advice from care staff who have at least a basic minimum knowledge of diabetes
- To have regular twice daily capillary blood glucose testing with the aim to keep the non-fasting level between 7-12 mmol/l
- To have regular foot checks to ensure early detection of poor blood supply, infection, and regular changes of dressings
- To have the opportunity to have their wishes for any future event documented (e.g. hospital admission) by completion of a ReSPECT form or similar

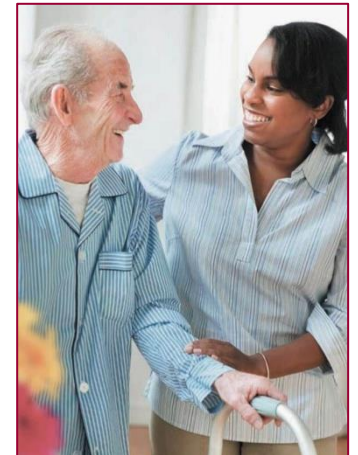


# IDOP-ABCD England-wide Care Home Diabetes Audit – 2013/4 – *Sinclair AJ et al 2014*

## Key findings from the audit – based on >2,000 responses

- **Two thirds of care homes** have no policy on screening for diabetes
- **Nearly two thirds of homes** did not have a designated member of staff with responsibility for diabetes management
- **More than 1 in 3 care homes** admitted that they do not have a written policy for managing hypoglycaemia
- **Approximately half of all care homes** admitted to not being aware of the National Diabetes UK Care Home Diabetes Guidance
- **About one third of care homes** admitted that they do not have access to local diabetes educational and training courses

- **Only a third of homes** were able to confirm that they received an annual review report for each of their residents with diabetes
- **Only about half of care homes** kept documented evidence of the latest HbA<sub>1c</sub> estimation from the GP
- **Less than half of all care homes** kept documented evidence of the latest test of kidney function carried out by the GP



Available at: [www.diabetesfrail.org](http://www.diabetesfrail.org)



# Competencies of Healthcare Assistants in managing diabetes – are we asking for too much?

## Ideal Knowledge and Skills

- Blood glucose monitoring skills
- Knowledge of administering SGLT-2 inhibitors and GLP-1 RAs
- Skills in administering insulin injections
- Recognition of hypoglycaemia
- Recognition of diabetes complications
- Recognise need for hospital referral
- Keeping accurate documentation and communicating well with nursing colleagues



## A Covid-19 Response Action – Diabetes Management in Care Homes

A National Stakeholders Covid-19 Response Group Interim Guidance



This guidance was prepared by a multidisciplinary stakeholder group in order to:

- 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

Addressed to: Care home managers, other care home staff, community nursing and diabetes staff, primary care providers including general practitioners

### Background

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.

Residents of care homes (both residential and nursing) are a highly co-morbid population who are particularly vulnerable to Covid-19 infection. A quarter of residents have diabetes and two-thirds may have frailty which is a better predictor of intensive care unit (ICU) outcomes than age or other factors.

This guidance is designed to support clinical decision-making in care homes. As such, the guidance will take into

account the availability of skilled personnel, access to monitoring of blood glucose (sugar) and ketones, fluid administration limits, and overall level of care likely to be available.

### Prevention and Control Issues

Care homes represent a major challenge to ensuring that Covid-19 prevention and control issues are optimal. Advice on special precautions to be taken can be found at:

<https://www.gov.uk/government/publications/coronavirus-covid-19-admission-and-care-of-people-in-care-homes>

Communication between all relevant parties (care homes, community services, primary care) may be enhanced by technology for virtual reviews/case conferences to minimise contacts for healthcare professionals.

### Advice for care home managers

- 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 replenish this every time it 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

# Covid-19 and care home residents with diabetes

Covid-19 can cause a serious acute illness in residents with diabetes by:

- increasing the risk of a rapid worsening of diabetes control which can lead to life-threatening conditions called diabetic ketoacidosis (DKA) and hyperosmolar hyperglycaemic state (HHS)
- increasing susceptibility to other infections including pneumonia, chest and foot infections, and sepsis
- worsening symptoms and signs in those with frailty, kidney disease and/or cardiovascular (heart) disease.

# Clinical scenarios and diabetes management in covid-19

Table B – Managing hyperglycaemia (high glucose levels) in varying circumstances (clinical scenarios)

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. $\geq 12$ 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 hourly <sup>Δ</sup> ): <b>A</b> Stop metformin in patients with fever and acute illness to minimise risk of lactic acidosis. <b>B</b> Stop SGLT-2 inhibitors** particularly in those with diarrhoea and vomiting due to an increased risk of dehydration and/or DKA <b>C</b> Consider adding a different oral hypoglycaemic treatment as necessary (e.g. linagliptin) <b>D</b> 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*	<b>A</b> Seek local diabetes nursing team support/advice for further management; test blood sugar frequently (e.g. 2-4 hourly <sup>Δ</sup> ) <b>B</b> Continue insulin at usual dose, closely monitor blood glucose (every 2-4 hours <sup>Δ</sup> ) 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 *** <sup>Δ</sup>
COVID-19 positive and unwell resident, unable to take oral therapy*	<b>A</b> Seek local diabetes nursing team support/advice for further management; test blood sugar frequently (e.g. 2-4 hourly <sup>Δ</sup> ) <b>B</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 80kg 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. <sup>Δ</sup>
COVID-19 positive on any therapy but with erratic eating patterns and fluctuating surges of blood glucose*	<b>A</b> Seek local diabetes nursing team support/advice for further management; test blood sugar frequently (e.g. 4-6 hourly) <b>B</b> Continue their usual hypoglycaemic therapy <b>C</b> 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 $\geq 15$ mmol/L ***

\*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>; <sup>Δ</sup> monitoring frequency and glucose target range dependent on shared decision making, staff resources and health status of resident

# Oral therapy for residents with type 2 diabetes mellitus



Association of British Clinical Diabetologists

## Expert Opinion – Preferred choice of oral glucose lowering therapy – type 2 diabetes

Agent	Conditions	Extra Comments
Metformin	1 <sup>st</sup> line but at lowest dose necessary	<b>Avoid</b> in significant cardiovascular disease, marked renal impairment, and those with weight loss; <b>AVOID</b> in acute illness e.g. Covid-19 because of lactic acidosis
DPP4-inhibitor .g. sitagliptin	1 <sup>st</sup> line or 2 <sup>nd</sup> line (if MF contraindicated) or in combination with MF if HbA1c >58mmol/mol	Try to aim for reduced 'pill' burden wherever possible; MF/DPP4-I combinations available
SGLT-2 inhibitor	Possible alternative as combination therapy with metformin if history of heart failure	Advantages – low risk of 'hypos' and benefits in renal protection and reduced heart failure hospital admissions <b>BUT</b> not advised in some circumstances

# CAUTIONS – with oral therapy

## EXPERT OPINION: Oral glucose –lowering therapy – TO AVOID in type 2 diabetes

Agent	Conditions/Reasons	Other Comments
Sulphonylureas	Risk of <b>HYPOGLYCAEMIA</b> and unpredictability of action	Propensity to ‘hypos’ increases in those with progressive weight loss
SGLT-2 inhibitors (Canagliflozin, Dapagliflozin, Empagliflozin, etc.)	Adverse effects of low BP, urinary incontinence, weight loss, genital infections, dehydration and increased risk of DKA. Care staff require extra training to administer	Particularly <b>AVOID</b> in frail malnourished residents; <b>EXPENSIVE</b> ; loss of dignity
Glinides (repaglinide, nateglinide)	<b>HYPOGLYCAEMIA</b> – particularly if meal missed; therefore <b>AVOID</b> in those with erratic meal times. Common frequency of GI side effects; may sometimes have a delayed ‘hypo’ effect. Expensive	Taken 15-30 mins pre-meal; shorter half-life than Sus; biliary excreted; <b>AVOID</b> in frail malnourished residents; <b>CAUTION</b> in residents aged >74years
Pioglitazon	Probably contraindicated in highly comorbid/frail residents: Many contraindications such as leg oedema, anaemia, falls and fracture risk	A fall is often an ‘AUDIT’ indicator in a care home
GLP-1RAs (exenatide, semaglutide, dulaglutide, liraglutide, etc.)	<b>INJECTABLE</b> therapy. Marked GP side effects in some cases. Care staff require extra training to administer. Expensive	<b>AVOID</b> in severe renal impairment: eGFR<30ml/min; once daily and once weekly preparations – may be potentially helpful in a care home setting. Combinations available with basal insulin. May offer some neuroprotective effects in those with cerebrovascular disease



# Preferred insulin regimens – Care Homes

EXPERT OPINION: Preferred choice of insulin regimen in type 2 diabetes		
Regimen	Reasoning	Other comments
<b>Once daily long acting basal insulin</b>		
- Normal eating pattern and no major post-prandial hyperglycaemia	Once-daily dosing only 24h coverage, e.g. glargine, <u>determir</u> starting at 0.1U/Kg/day Consistent timing of administration required	NPH insulin can be considered once daily if glucose levels can be controlled to target range and 'hypos' not an issue
- Low intake evening	Glargine or <u>determir</u> if target ranges are met and previous 'hypos' were an issue	Otherwise, can try NPH insulin – shorter duration
- End of dosing 'wearing off' effects	A newer longer-acting basal insulin such as insulin <u>degludec</u> (200U/ml) or insulin glargine, U300 - may be needed	Prevents the end of dosing period elevation in glucose
- Where flexibility of dosing is needed with erratic meal consumption	Consider Using <u>degludec</u> (U200) and glargine (U300) where there <u>is</u> inconsistent patterns of timing of administration (care staff availability, resident's behaviour, other urgent priorities)	A switch to <u>degludec</u> (U200) or glargine (U300) may be needed to reduce nocturnal hypos if occurring with standard basal insulins

## Key Points

- Low complexity regimens advised
- Adjust dosage/timing to day & night glucose levels, excessive prandial deviations, and risk of hypoglycaemia
- Use of basal-bolus regimen (apart from use in residents with type 1 diabetes) rather than a basal insulin only regimen must be justified
- Use basal insulin – oral agent combination if a definite advantage can be proven
- Use of premixed insulin regimens do not generally fit with low complexity approaches

## EXPERT OPINION: Preferred choice of insulin in type 2 diabetes – other regimens

<b>Twice daily insulin regimen</b>	<p>Twice-daily short-acting basal insulin if post-prandial glucose (PPG) remain high on once daily basal insulin</p> <p>Could be considered for <b>type 1 diabetes</b> on regular meals</p>	<p>This regimen often AVOIDED - risk of nocturnal 'hypos' with twice daily insulin</p> <p>Could try a '<b>premix</b>' insulin in the morning and a short-acting insulin in the evening with a dose that avoids nocturnal hypoglycaemia</p> <p><b>A basal insulin plus GLP-1 RA could be considered as an alternative</b></p>
<b>Basal-Bolus insulin regimen</b>	<p><b>Usually only for type 1 diabetes</b></p> <p>Can be considered for residents who fail on basal insulin +/- OHAs</p> <p>Can be given for residents in hyperglycaemic crisis, e.g. covid-19</p>	<p>May not be possible in some care homes where trained care staff are not available to supervise this regimen</p> <p>Might be temporarily considered when PPG are <u>very high</u> (&gt;15 mmol/l) despite twice daily basal insulin</p>
<b>Other low complexity regimen</b>	<p><b>A basal insulin plus GLP-1 RA</b> could be considered in a resident admitted on this combination</p> <p>A combination of basal insulin with a DPP4-inhibitor is an alternative to a basal bolus regimen</p>	<p>Best given in the morning – the basal insulin can be titrated according to fasting glucose, and the GLP-1 RA can cover post-meal peaks.</p>

## Other insulin regimens



# Newer formulations - still a reluctance to use in care homes!

- Few clinical studies in older adults of the pharmacokinetics/ pharmacodynamics of newer insulin formulation
- Few new studies of combining the newer formulations with other glucose-lowering agents particularly in older people
- There is a risk that the incidence of medication errors will increase because of 'dose confusion' by untrained staff



- **Quite clearly, the vulnerable older adult with; (a) a history of frequent hypoglycaemia; (b) fluctuating hydration status and poor renal function; (c) and a history of erratic eating patterns will be a poor candidate for the newer higher concentration insulin formulations: miscalculation of an individuals daily insulin requirements could have catastrophic consequences!**

# Newer Formulations – *a brief snapshot of potential roles*

## Potential advantages

- Some newer formulations may give comparable glucose lowering efficacy without substantially increasing hypoglycaemia risk (including nocturnal hypos) which is an advantage
- Evidence of less glycaemic variability – helpful in the day to day monitoring/management of residents in care homes
- Longer term use of newer higher concentrated insulin formulations – less weight gain – *an advantage in those residents with obesity but a potential disadvantage in those with frailty and/or sarcopaenia*
- Possibility of giving insulin less frequently (if licence allows) – e.g. 2-3 times weekly – less burden on care staff/carers – *e.g. Nagai Y et al, Efficacy and safety of thrice-weekly insulin degludec in elderly patients with type 2 diabetes assessed by continuous glucose monitoring Endocrine Journal, 2016, 63 (12), 1099-1106*

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- Preparations such as Degludec (a 42h profile) and Toujeo (Glargine 300) allow the timing of the once daily insulin to be altered by care staff if necessary – e.g. by excessive demands on care staff and community nurses and so delays in receiving the insulin – creates flexibility combined with a degree of safety (may have advantages in the small number who have type 1 diabetes)
- For residents with large daily requirements for insulin, the use of fewer insulin pens requiring storage by care staff/carers is a potential advantage
- Giving higher strength insulin with less injectable volume may be less painful in those residents with high daily insulin requirements

# Glycaemic targets and monitoring glucose in care home residents with diabetes

## Glycaemic Targets

- Regular twice daily pre-meal capillary blood glucose testing - aim to keep the level between 7 and 12 mmol/l – *consider increased monitoring under the direction of diabetes nurse/doctor if resident is unwell*
- Avoid levels of  $\leq 6$  mmol/l
- HbA1c guideline guidance: safe range: 53-64 mmol/mol (7-8%)
- Type 1 diabetes – no evidence to suggest different from type 2 diabetes

## Monitoring frequency

- Stable and well – daily or twice daily depending on staff resources
- Unwell with rising glucose levels (e.g. covid-19):
  - oral treatment - 2-4 hrly BM initially until in target range
  - Insulin – 2-4 hrly BM initially until in target range
- (same approach for type 1 and 2 when unwell)

# Residents at great risk of harm from Glucose-Lowering Agents – a Freedom of Information Study

*Milligan F, Krentz AJ, Sinclair AJ Dec 2011 – Diabetic Med*



- **Aim:** To analyse adverse drug events in older people with diabetes in the care home setting via incident reports – **Jan 2005 – Dec 2009**
- **A Freedom of Information request** was made to the National Reporting and Learning Service via the National Patient Safety Agency.
- **RESULTS:** There were 684 reports related to insulin and 84 incidents related to oral glucose-lowering agents. The **most common error category with both types of drug therapy was wrong or unclear dose**: 173 reports for insulin, including one death, and 20 reports for oral therapy.
- **CONCLUSIONS:** Residents with diabetes in care homes are potentially at risk of harm from adverse drug events pertaining to insulin and oral glucose-lowering agents.
- Because of likely ***under-reporting***, our data most likely represent only a fraction of events.



# Management of hypoglycaemia

## Management of hypoglycaemia (low blood sugar, $<4$ mmol/l)

Residents receiving insulin or certain glucose-lowering tablets called sulphonylureas (e.g. gliclazide, glipizide) or glinides (e.g. nateglinide) have a higher risk of hypoglycaemia particularly if their usual meal pattern is disturbed through acute illness or nausea. A guide to management is given below:

### Awake and able to drink safely

- Give 15-20g of fast-acting carbohydrates such as 60 mls of Gluco juice, 200 ml of pure fruit juice, or 5-6 dextrose (glucose) tablets
- Wait 10 to 15mins, re-check capillary blood glucose (BG)
- Repeat treatment until BG  $>4$  mmol/L
- Then give 20 g long-acting carbohydrate, such as 2 biscuits or a slice of bread
- Review medications, discuss de-escalation of glucose-lowering treatments with team

### Awake, able to drink safely but confused or agitated

If uncooperative:

- Squeeze 1.5 -2 tubes of glucogel into the inside of the cheek and massage
- Wait 10 to 15mins, re-check BG
- Repeat treatment until BG  $>4$ mmol/L
- Then give 20 g of long-acting carbohydrate, such as 2 biscuits or a slice of bread
- Review medications, discuss de-escalation of glucose-lowering treatments with team responsible for diabetes care

### Unconscious, may be fitting

- Ask for help and dial 999
- Place patient in recovery position
- Stop any scheduled insulin
- If trained to do so, give 1 mg glucagon IM once only if possible
- If becomes awake, give 20 g of long-acting carbohydrate, such as 2 biscuits or a slice of bread
- Liaise with paramedics on arrival for further management

*Covid-19 and Diabetes: Interim Care Home Guidance 12<sup>th</sup> May 2020*



# Contents of a Hypo Box – *Modify for a Care Home*



Association of British Clinical Diabetologists

- Copy of hypoglycaemia algorithm (laminated and attached to inside of lid)
- 2x 200ml cartons of pure fruit juice
- 2x packets of dextrose tablets
- 1x mini pack of biscuits (source of long acting carbohydrate)
- 3 x tubes (1 box) 40% glucose gel
- 20% glucose IV solution (100ml vial)
- 1x green cannula 18G
- 1x grey cannula 16G
- 1x 10ml sterile syringe
- 3 x 10ml sodium chloride 0.9% ampoules for flush
- 1x green sterile needle 21G
- Chlorhexidine spray/alcohol wipes
- 1x IV dressing (cannula cover)
- 10% glucose for IV infusion (500ml bag)
- Audit form
- Instructions on where to send audit form and replenish supplies
- 1x Glucagon pack – to be kept in the nearest drug fridge or labelled with reduced expiry date of months if stored at room temperature



“Hypo box” contents should be checked on a daily basis to ensure it is complete and in date. It is the responsibility of the member of staff who uses any contents to replenish them after use.

N.B. Chosen preparation of IV glucose should also be included or kept nearby with appropriate giving set.

N.B. Appropriate portable sharps disposal equipment should also be kept nearby.

*JBDS-IP: The Hospital Management of Hypoglycaemia in Adults with Diabetes Mellitus 4th edition Revised January 2020*



# CQC Elements of Good Practice – Guidance for Inspectors -*Diabetes 2015*



Association of British Clinical Diabetologists



7. What are the elements of good diabetes care?

Good diabetes care begins with a diabetes policy. A good diabetes policy describes and requires the four elements set out below.

**1. Diabetes screening on admission that is recorded and audited.**

This can reduce the number of GP call-outs and hospital admissions linked to undiagnosed diabetes and associated complications.

**2. Availability of a fully-stocked and maintained hypoglycaemia kit.**

This can reduce ambulance call-outs and hospital admissions due to hypoglycaemia.

**3. A risk-calculation and assessment tool for diabetes foot disease.**

Use of such a tool by suitably trained staff can reduce unnecessary amputations.

**4. Access to good quality diabetes education and training for care home staff.**

Good training can lead to fewer GP call-outs and hospital admissions for hypoglycaemia, infections, and other common medical problems associated with diabetes.

*Based on Sinclair AJ, Joint British Diabetes Societies, 2015*

# People with Diabetes Resident in Coventry Nursing Homes

## – A survey of 75 residents in 11 Nursing Homes



### Key findings

#### (1) Polypharmacy

63 residents (84%) were being prescribed 4 or more medicines.

#### (2) Potential inappropriate prescribing

44 residents (59%) were being prescribed antiplatelet drugs (aspirin, clopidogrel and dipyridamole for the prevention of cardiovascular disease)

31 (41%) residents were on statin therapy

19 (25%) were on insulin

18 (24%) had a monthly medication cost of over £101/month (excluding costs of PEG feeding solutions). Many of these 18 were being prescribed special order liquid preparations usually for secondary CVD prevention (e.g. simvastatin oral liquid £152/month, bisoprolol oral solution £315/month)

#### (3) End of Life Scenario

- Based on negative answer to question “Would I be surprised if my patient were to die in the next 12 months”
- The **MAJORITY** of the residents would be classified as terminally ill



*Gadsby R, Barker P, Sinclair A. Diabetic Medicine 2011 28: 778-780*

*Gadsby R, Galloway M, Barker P, Sinclair A. Diabetic Medicine 2012 29: 136-139*

# Key Issues in Diabetes End of Life Care

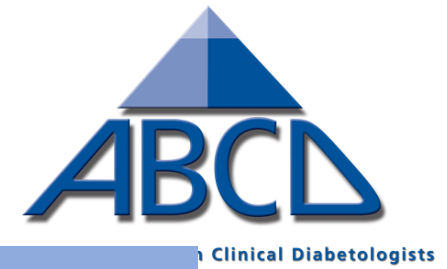


## Major Clinical issues

- **Glucose control: what level to aim for?**  
Balancing control of symptoms with risk of hypoglycaemia
- **Minimising adverse effects of treatments**
  - avoid hypoglycaemia
  - minimise effects of chemotherapy and/or radiotherapy
- **Minimise investigations** e.g. frequent blood glucose testing
- **Tailoring treatment:** avoid complex insulin regimes
- **Managing pain effectively:** include use of midazolam, but avoid 'overtreatment'

# Rethinking Goals of Care and Rationalising Treatment

## *ABCD Position Statement, Rowles S., Kilvert A., Sinclair AJ., 2010*



### Type 1

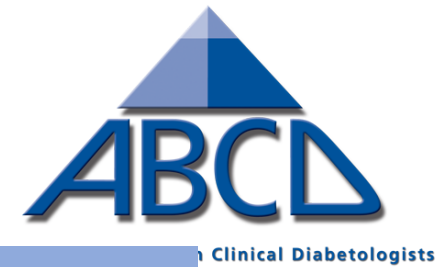
- Type 1 diabetes - *insulin withdrawal is not advised*
- Simplify insulin regimen
- Minimise BGM
- Avoid DKA

### Type 2

- Type 2 diabetes: *discontinue insulin in all cases of asymptomatic type 2 diabetes*
- Type 2 diabetes: discontinue BGM unless patient is symptomatic
- Withdraw oral agents when significant anorexia/weight loss occurs to avoid hypoglycaemia

# Rethinking Goals of Care and Rationalising Treatment

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**Maintain an  
adequate  
state of  
hydration**

**Discontinue  
BP and statins**

**Aim for an  
HbA1c range  
of : 7.5 -9.0%**

**Aim for  
glucose  
random 7-10  
(12)**

# Economic considerations – care home diabetes



## Sources of Increased healthcare expenditure

- Hospitalisation costs due to acute illness, hypoglycaemia
- Excessive GP and community nurse call outs
- Increased medication costs
- Extra staffing costs and transfer of ill residents to nursing beds in same care home
- Extra non-staffing costs – e.g. covid-related costs

<https://digital.nhs.uk/services/social-care-programme/demonstrators-programme-2019-21-case-studies/improving-flows-of-health-information-to-care-homes>

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## Potential ways in dealing with excessive expenditure

### **Introduce a risk-management approach throughout all operations within the care home**

- Frequent medication review and application of Beer's List
- Use low complexity treatment regimens including insulin and better monitoring
- Establish a 'high risk of hypoglycaemia' list
- Improve and develop better COMMUNICATION lines with all services/stakeholders

<https://digital.nhs.uk/services/social-care-programme/demonstrators-programme-2019-21-case-studies/improving-flows-of-health-information-to-care-homes>



# Technology and Communication with the Care Home – *a major problem highlighted by covid!*

## Covid pandemic highlighted:

- Extreme vulnerability to infection in residents with diabetes
- Lack of published clinical guidance to handle a serious outbreak of viral infections in care homes
- Ill-prepared care workforce to manage acutely ill residents with diabetes
- A lack of joined up thinking and collaboration between care homes and local health & social services
- An absence of tested and tried communication channels between care homes, community services, and primary care – *little evidence of sharing information*

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## Potential developments in technology that require further testing

- Telephone consultations complemented by computer/iPAD for care planning, medication changes, audit, advice on BM readings – ‘e’ records
- Microsoft teams – ‘video’ - increasing use and more secure than ‘zoom’ meetings; DSNs can do ‘virtual clinics’ with GPs
- Increasing number of care home managers now on ‘nhs.net’ emails – more secure/confidential
- Little evidence of flash monitoring with freestyle libre although some use in type 1 diabetes
- Development of AccuRx – a secure video consultation device that enables doctors/nurses to have written/video consultations with people with diabetes – present in more than 6,000 GP practices - little use in care homes – able to be used with EMIS/SystmOne – can be used on smartphones, desktops/laptops
- However: care homes have little access to EMIS/SystmOne

# Summary and Action: establishing the National Advisory Panel – Care Home Diabetes 2020-21



## Driving Forces

- All that has been mentioned already!
- High vulnerability group with high levels of dependency and increased hospital admissions
- Results of national audit
- Impact of Covid-19 and the recent published *rapid response Covid-19 and diabetes for care homes* document.
- A recognition of need to do something more

## Key Points

- **National multistakeholder group** involving all diabetes societies/organisations (ABCD, Diabetes UK, JBDS-IP, PCDS, Trend-UK), RCGP, Care England, public Health England, ADASS (tbc), and leading scientists/physicians
- **Chair:** Prof Alan Sinclair, King's College, London
- **Objective:** To develop a workable and implementable **Strategic Document** to enhance diabetes care in care homes from multiple perspectives: clinical, organisational, educational, liaison and networking, value for money, and so on.
- **Fixed-term sitting** – end date June 2021 with publication of Report and Recommendations

# Questions

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