Masterclass PCDS NI 2023

Frailty, Diabetes & Desprescribing

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Western Health and Social Care Trust

Acknowledgements

- Dr Ailish Nugent Belfast City Hospital
- Dr Lisa Devine GP Special Interest in Diabetes.
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- Fionnuala McCullagh Clinical Pharmacist WHSCT
- Marianne McKenna Clinical Pharmacist WHSCT

Disclosures

Within last 3 years have received honoraria for delivering or chairing education meetings from:

Novo Nordisk

Received payment for acting as tutor for QUB for advanced practice clinical pharmacy programmes.

Aims of session

- Assessing frailty and Risk
- When is it appropriate to stop and reduce treatments
- Principles of deprescribing and follow up.

Frailty-Definition

'Frailty is a distinctive health state related to the aging process in which multiple body systems gradually lose their in-built reserves'

(British Geriatrics Society)

NB: Old does not equal frail

What else is involved?

- Polypharmacy
- Cognitive Impairment
- Depression
- Urinary Incontinence
- Injurious falls
- Chronic pain
- Co-morbidities

Weight loss

Exhaustion

Low gait speed

Low grip strength

Low physical activity

Diabetes & Frailty

- Frailty is increasingly recognised as a complication of diabetes (~40% >65 yrs with diabetes have frailty)
- Type 2 diabetes is associated with accelerated biological aging (~10yr difference in exercise performance)
- Population is aging which increases prevalence of diabetes (~40% PLWD >70yrs)
- Increasing age and diabetes are risk factors for functional decline and disability

MJ Davies et al. Management of hyperglycaemia in type 2 diabetes, 2022. A consensus report by the ADA and EASD. Diabetes Care 2022; 45(110:2753-2786
Sinclair A et al. Management of frailty and associated co-morbidities in older adults with diabetes. Position statement on behalf of the Association of British Clinical Diabetologists (ABCD)

Frailty – Assessment tools: Electronic Frailty Index eFI

- The eFI uses existing electronic health records and a ‘cumulative deficit’ model to measure frailty on the basis of the accumulation of a range of deficits.
- These deficits include clinical signs (e.g. tremor), symptoms (e.g. vision problems), diseases, disabilities and abnormal test values.
- Higher scores=higher likelihood of frailty = higher risk adverse outcome
- 0.24 > moderate 0.36> severe

NB requires clinical judgement

https://www.england.nhs.uk/ourwork/clinical-policy/older-people/frailty/efi/#the-contract-requires-general-practice-to-use-an-appropriate-tool-for-example-the-electronic-frailty-index-efi-what-is-the-efi

CLINICAL FRAILTY SCALE

1 **VERY FIT** — People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.

2 **FIT** — People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g., seasonally.

3 **MANAGING WELL** — People whose **medical problems are well controlled**, even if occasionally symptomatic, but often are **not regularly active** beyond routine walking.

4 **LIVING WITH VERY MILD FRAILTY** — Previously "vulnerable," this category marks early transition from complete independence. While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being "slowed up" and/or being tired during the day.

5 **LIVING WITH MILD FRAILTY** — People who often have **more evident slowing**, and need help with **high order instrumental activities of daily living** (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

6 **LIVING WITH MODERATE FRAILTY** — People who need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **LIVING WITH SEVERE FRAILTY** — **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).

8 **LIVING WITH VERY SEVERE FRAILTY** — Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.

9 **TERMINALLY ILL** — Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise living with severe frailty.** (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

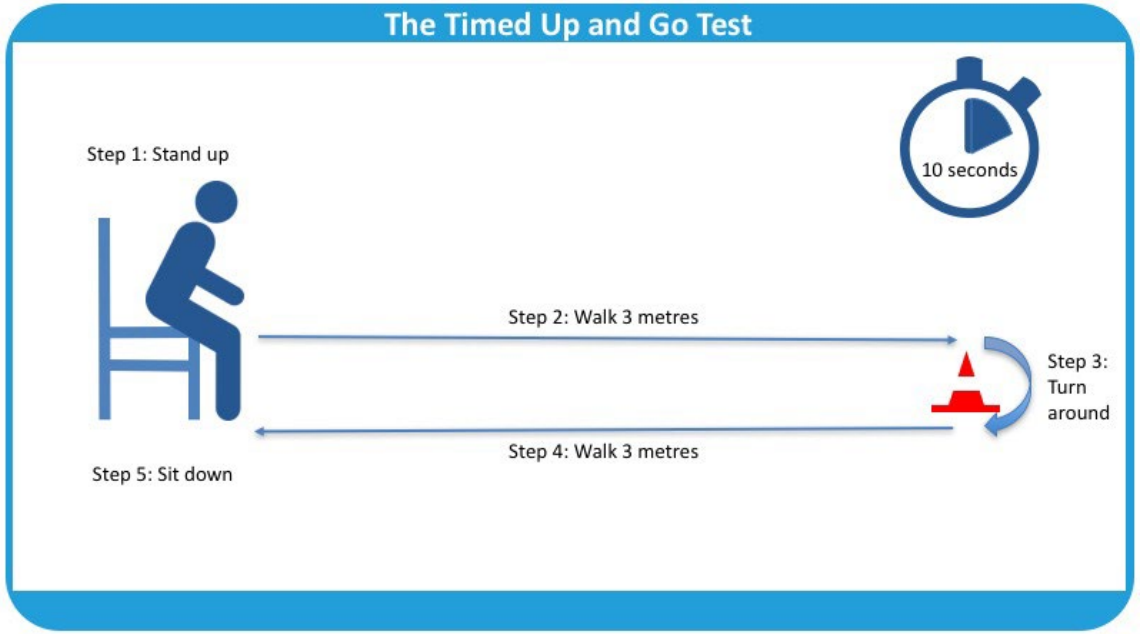
In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.

DALHOUSIE UNIVERSITY

Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

Frailty Assessment tool: Timed Up and Go Test



- Times >14-20 seconds indicate increased risk of falls
- *Other tools: Prisma 7, Gait Speed test, Sarc-F test*

NHS RightCare

age UK Love later life

GIRFT GETTING IT RIGHT FIRST TIME

Informed by relevant NICE recommendations

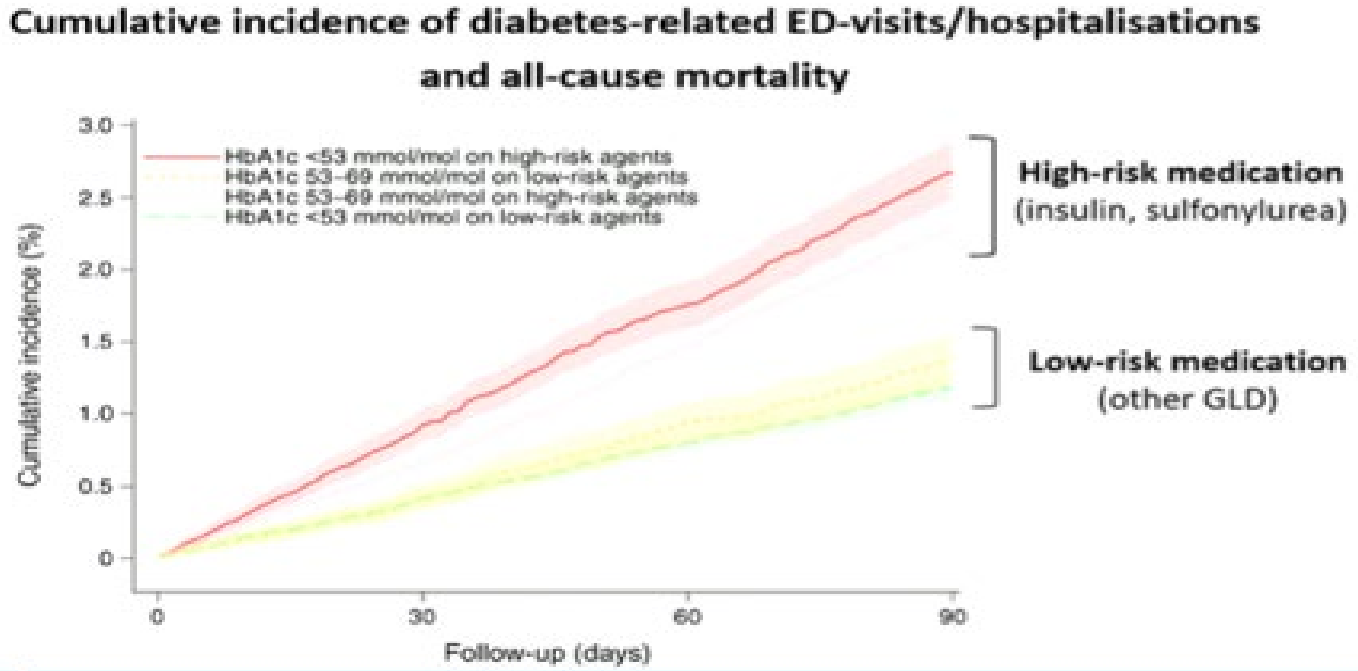
NICE National Institute for Health and Care Excellence

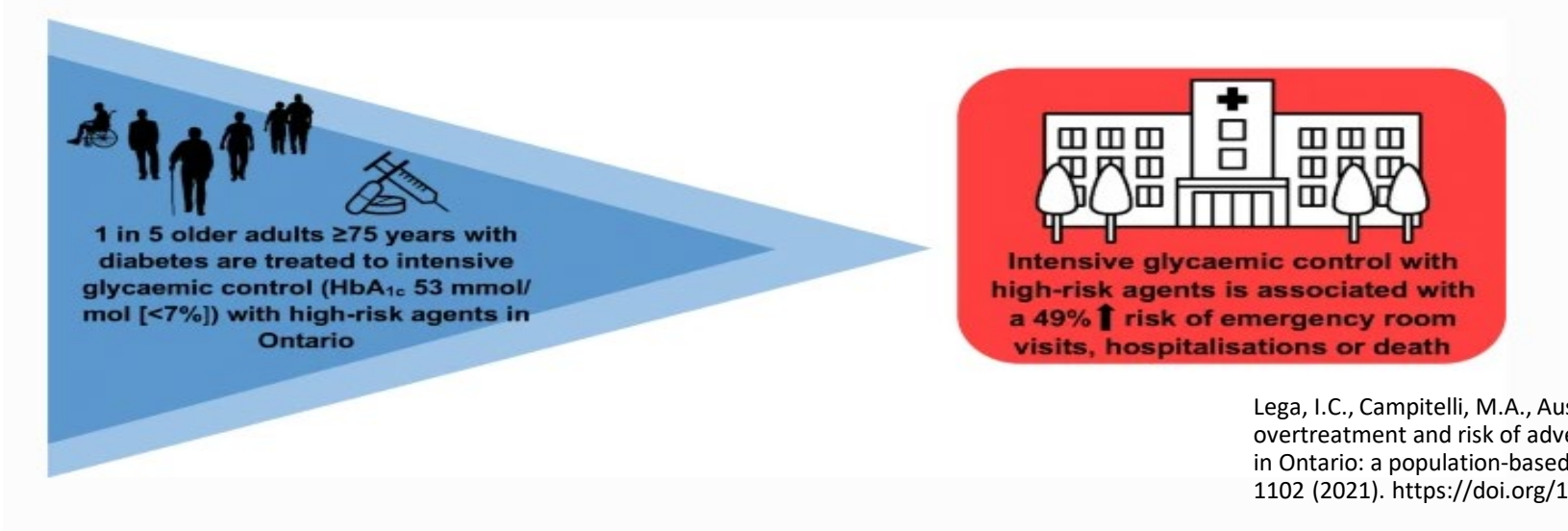
https://www.england.nhs.uk/rightcare/wp-content/uploads/sites/40/2019/07/frailty-toolkit-june-2019-v1.pdf

Diabetes & Frailty & Prescribing challenges

- Less benefits of tight glycaemic control but avoid hyperglycaemia.
- Increased risk of side-effects of treatments (hypoglycaemia, GI, urinary)
- Shorter life expectancy
- Increased co-morbidity (dementia, CKD)
- Self management may be a challenge
- Oral intake may decline, variable
- Most RCTs in younger populations
- Most prescribers not specialist in diabetes

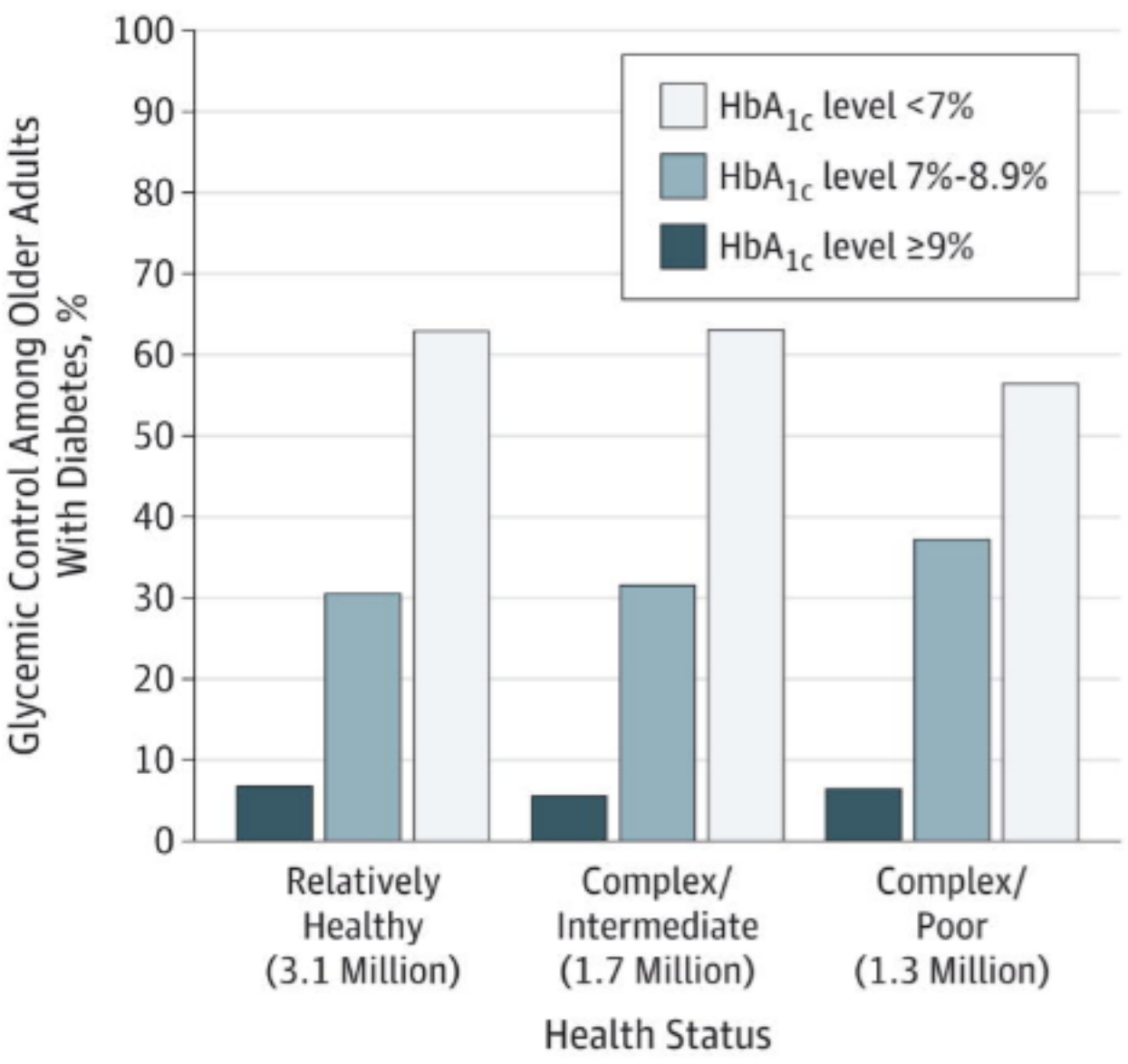
Evidence of overtreatment

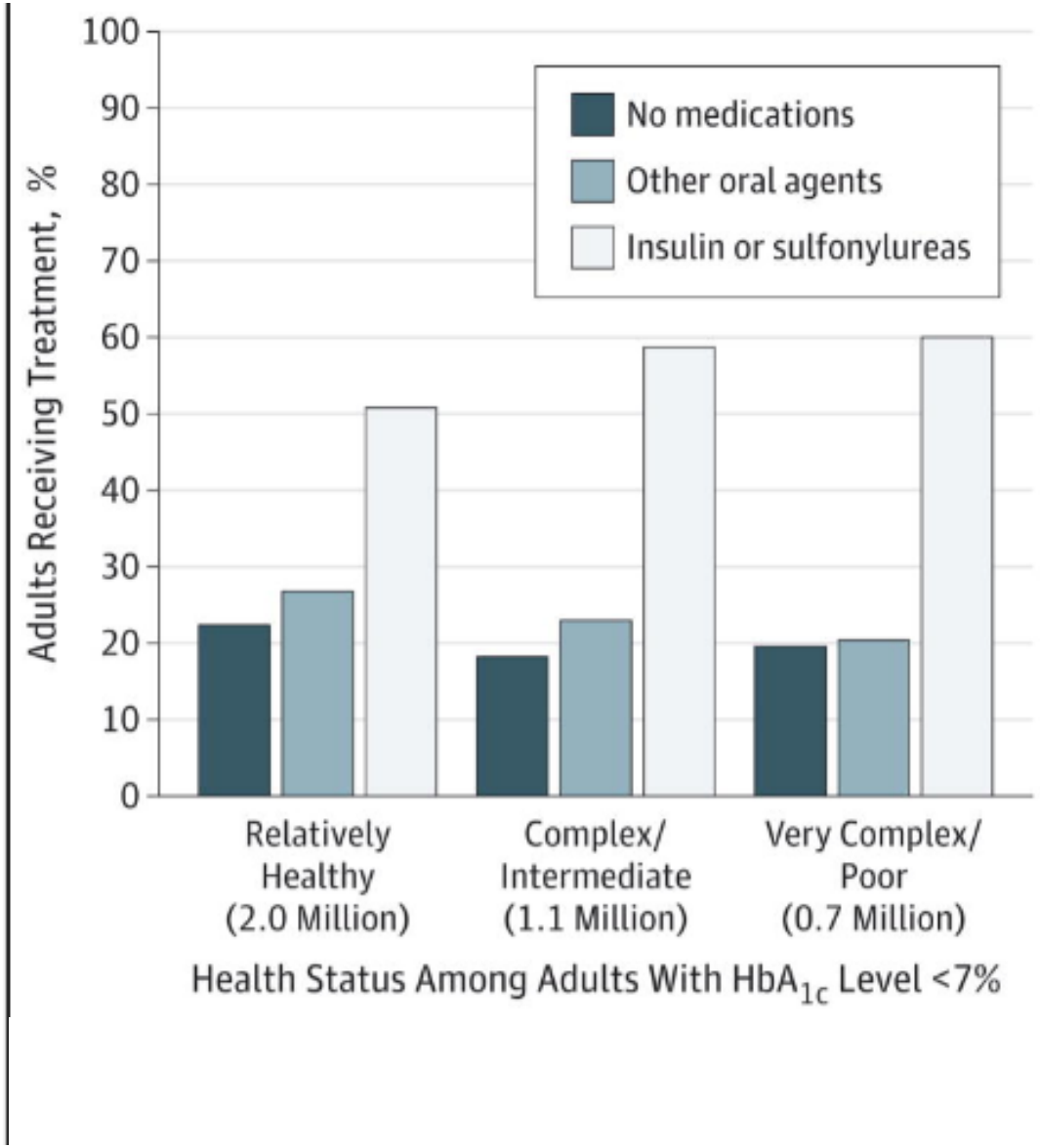




Lega, I.C., Campitelli, M.A., Austin, P.C. *et al.* Potential diabetes overtreatment and risk of adverse events among older adults in Ontario: a population-based study. *Diabetologia* **64**, 1093–1102 (2021). https://doi.org/10.1007/s00125-020-05370-7

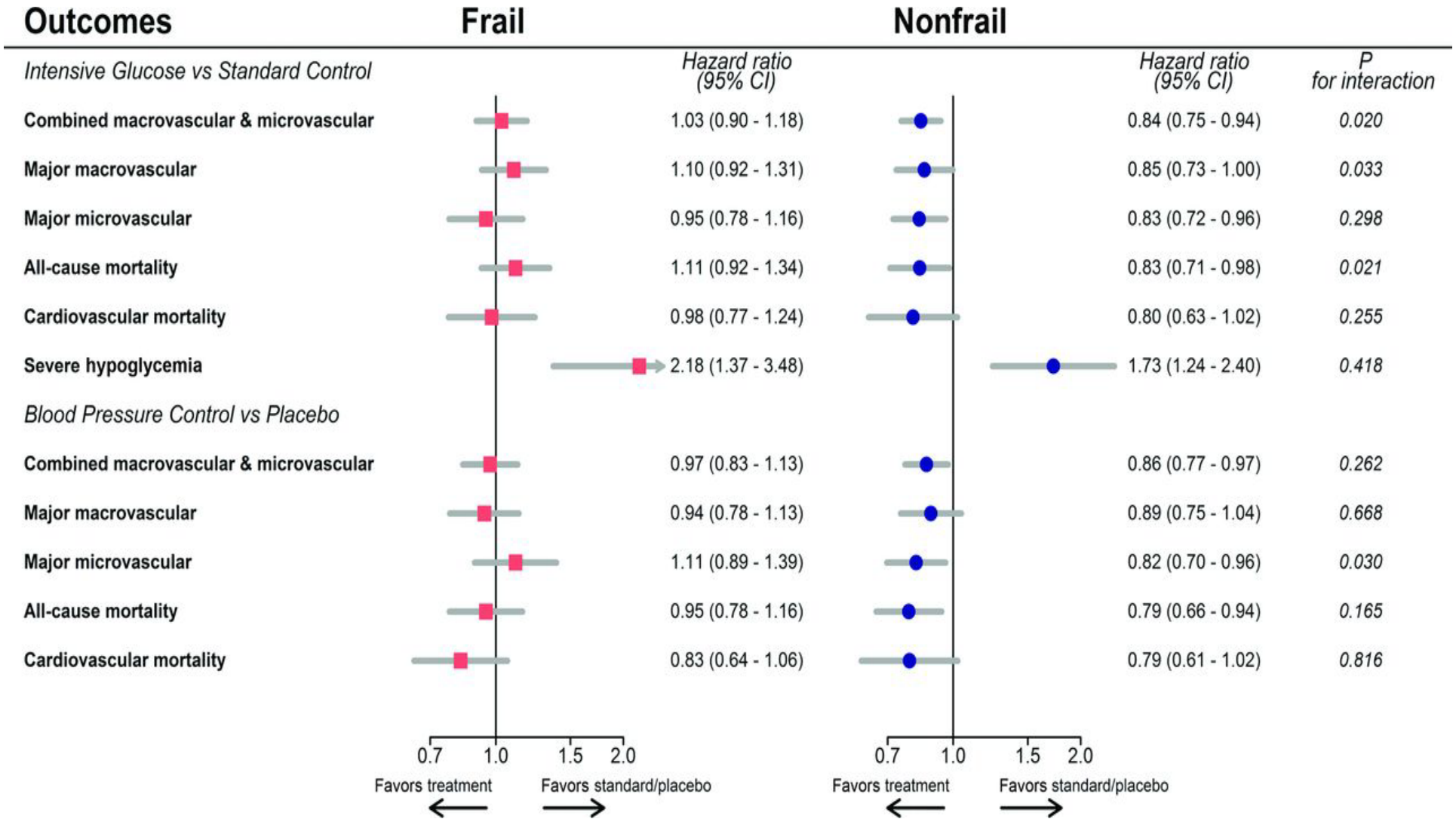
Evidence of overtreatment





Lipska KJ, Ross JS, Miao Y, Shah ND, Lee SJ, Steinman MA. Potential overtreatment of diabetes mellitus in older adults with tight glycemic control. JAMA Intern Med. 2015 Mar;175(3):356-62. doi: 10.1001/jamainternmed.2014.7345. PMID: 25581565; PMCID: PMC4426991.

The Impact of Frailty on the Effectiveness and Safety of Intensive Glucose Control and Blood Pressure–Lowering Therapy for People With Type 2 Diabetes: Results From the ADVANCE Trial



Nguyen et al. Diabetes Care 2021;44(7):1622-1629

Hypoglycaemia

Common in older people, particularly dementia, CKD

Often under-reported

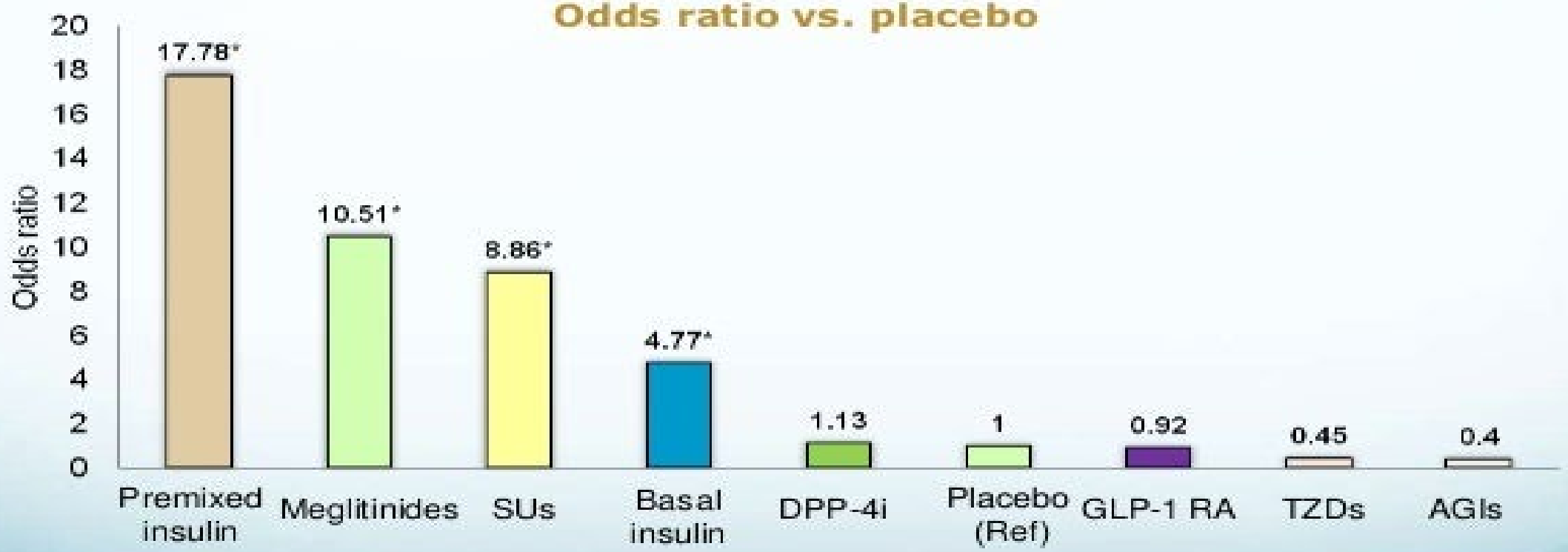
Reduced hormonal counter-regulatory responses

Increased neuroglycopaenia

Consequences- falls, fractures, hospital admission, cardiovascular events, mortality, accelerated cognitive decline

Overall risk of hypoglycemia

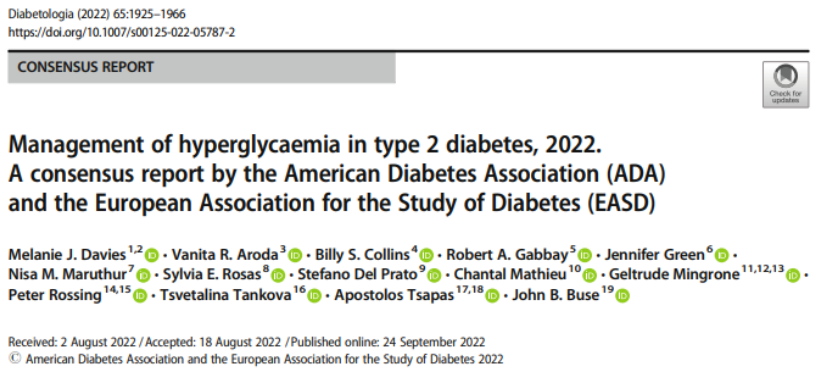
Network meta-analysis comparing antihyperglycemic drugs as add-on to metformin



***Statistically significant vs. placebo.** TZDs=thiazolidinediones; AGIs=alpha-glucosidase inhibitors; GLP-1=glucagon-like Peptide 1; DPP-4=dipeptidyl peptidase-4.

1. Liu, Sung-Chen et al. *Diab Obes & Metab* 2012; 14:810-820.

So what Guidance is available?


Diabetologia (2022) 65:1925–1966
https://doi.org/10.1007/s00125-022-05787-2

CONSENSUS REPORT

Management of hyperglycaemia in type 2 diabetes, 2022. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD)

Melanie J. Davies[1,2] · Vanita R. Aroda[3] · Billy S. Collins[4] · Robert A. Gabbay[5] · Jennifer Green[6] · Nisa M. Maruthur[7] · Sylvia E. Rosas[8] · Stefano Del Prato[9] · Chantal Mathieu[10] · Geltrude Mingrone[11,12,13] · Peter Rossing[14,15] · Tsvetalina Tankova[16] · Apostolos Tsapas[17,18] · John B. Buse[19]

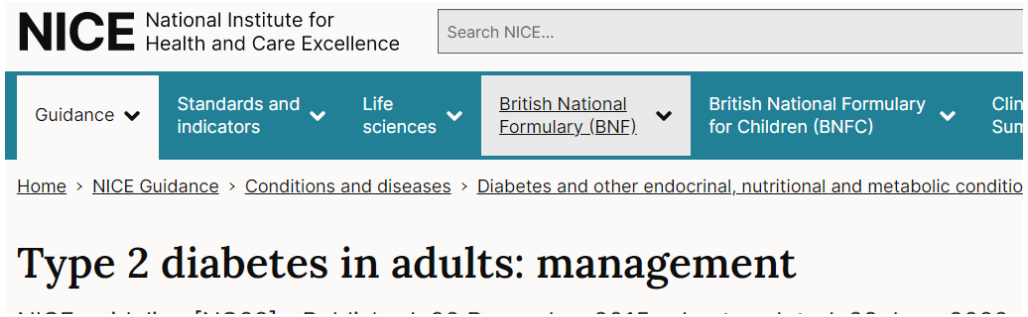
Received: 2 August 2022 / Accepted: 18 August 2022 / Published online: 24 September 2022

POSITION STATEMENT

Association of British Clinical Diabetologists

Managing frailty and associated comorbidities in older adults with diabetes: Position Statement on behalf of the Association of British Clinical Diabetologists (ABCD)

ALAN SINCLAIR,[1] ALISON GALLAGHER[2]



Diabetes Ther (2021) 12:1227–1247
https://doi.org/10.1007/s13300-021-01035-9

REVIEW

Diabetes and Frailty: An Expert Consensus Statement on the Management of Older Adults with Type 2 Diabetes

W. David Strain · Su Down · Pam Brown · Amar Puttanna · Alan Sinclair

JBDS-IP Joint British Diabetes Societies for inpatient care

Inpatient Care of the Frail Older Adult with Diabetes

February 2023

- ## 1.1 Individualised care

- 1.1.1Adopt an individualised approach to diabetes care that is tailored to the needs and circumstances of adults with type 2 diabetes, taking into account their personal preferences, comorbidities and risks from polypharmacy, and their likelihood of benefiting from long-term interventions. Such an approach is especially important in the context of multimorbidity. **[2015, amended 2022]**

- 1.1.2Reassess the person's needs and circumstances at each review and think about whether to stop any medicines that are not effective. **[2015]**

- 1.1.3Take into account any disabilities, including visual impairment, when planning and delivering care for adults with type 2 diabetes. **[2015]**

https://www.nice.org.uk/guidance/ng28

Diabetologia (2022) 65:1925–1966
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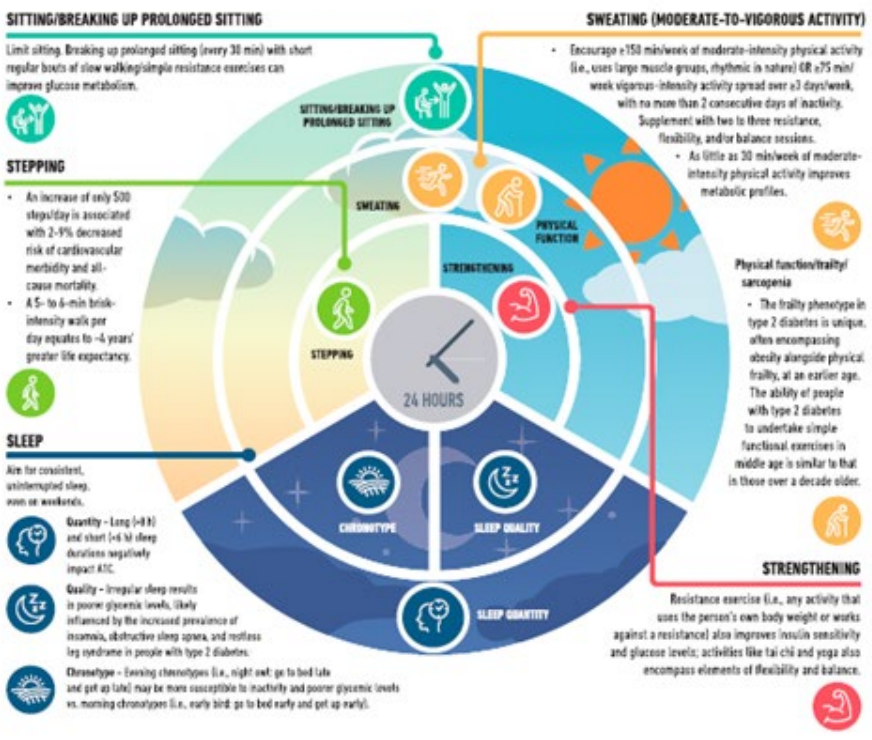
- Medication choices for those who are frail or have multiple co-morbidities may require modification for safety and tolerability
- Cardiovascular and renal benefits of GLP-1 agonists and SGLT2Is in patients >65 years are consistent with effects seen in overall population
- Recommendations for selection of medications to improve cardiovascular and renal outcomes in diabetes do not differ for older people

IMPORTANCE OF 24-HOUR PHYSICAL BEHAVIORS FOR TYPE 2 DIABETES

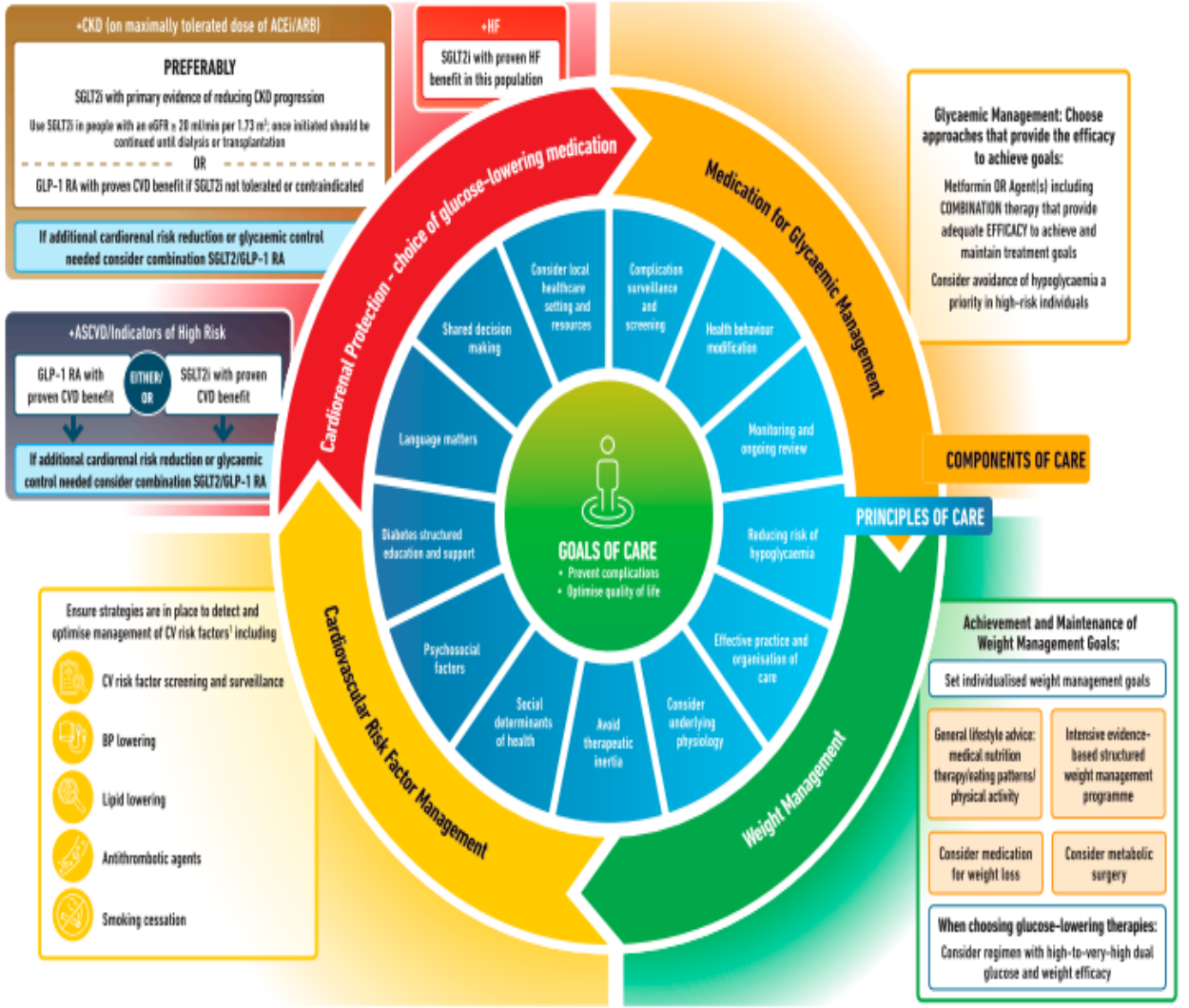


	Glucose/insulin	Blood pressure	A1C	Lipids	Physical function	Depression	Quality of life
SITTING/BREAKING UP PROLONGED SITTING	↓	↓	↓	↓	↑	↓	↑
STEPPING	↓	↓	↓	↓	↑	↓	↑
SWEATING (MODERATE-TO-VIGOROUS ACTIVITY)	↓	↓	↓	↓	↑	↓	↑
STRENGTHENING	↓	↓	↓	↓	↑	↓	↑
ADEQUATE SLEEP DURATION	↓	↓	↓	↓	●	↓	↑
GOOD SLEEP QUALITY	↓	↓	↓	↓	●	↓	↑
CHRONOTYPE/CONSISTENT TIMING	↓	●	↓	●	●	↓	●

IMPACT OF PHYSICAL BEHAVIORS ON CARDIOMETABOLIC HEALTH IN PEOPLE WITH TYPE 2 DIABETES

↑ Higher levels/improvement (physical function, quality of life); ↓ Lower levels/improvement (glucose/insulin, blood pressure, A1C, lipids, depression); ● no data available;
↑ Green arrows = strong evidence; ↑ Yellow arrows = medium-strength evidence; ↑ Red arrows = limited evidence.

HOLISTIC PERSON-CENTRED APPROACH TO T2DM MANAGEMENT



- Davies MJ, Aroda VR, Collins BS, Gabbay RA, Green J, Maruthur NM, Rosas SE, Del Prato S, Mathieu C, Mingrone G, Rossing P, Tankova T, Tsapas A, Buse JB *Diabetes Care* 2022; https://doi.org/10.2337/dci22-0034. *Diabetologia* 2022; https://doi.org/10.1007/s00125-022-05787-2.

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POSITION STATEMENT

Figure 1: ABCD Frailty Assessment Pathway in Diabetes (adapted from references 12 and 13)

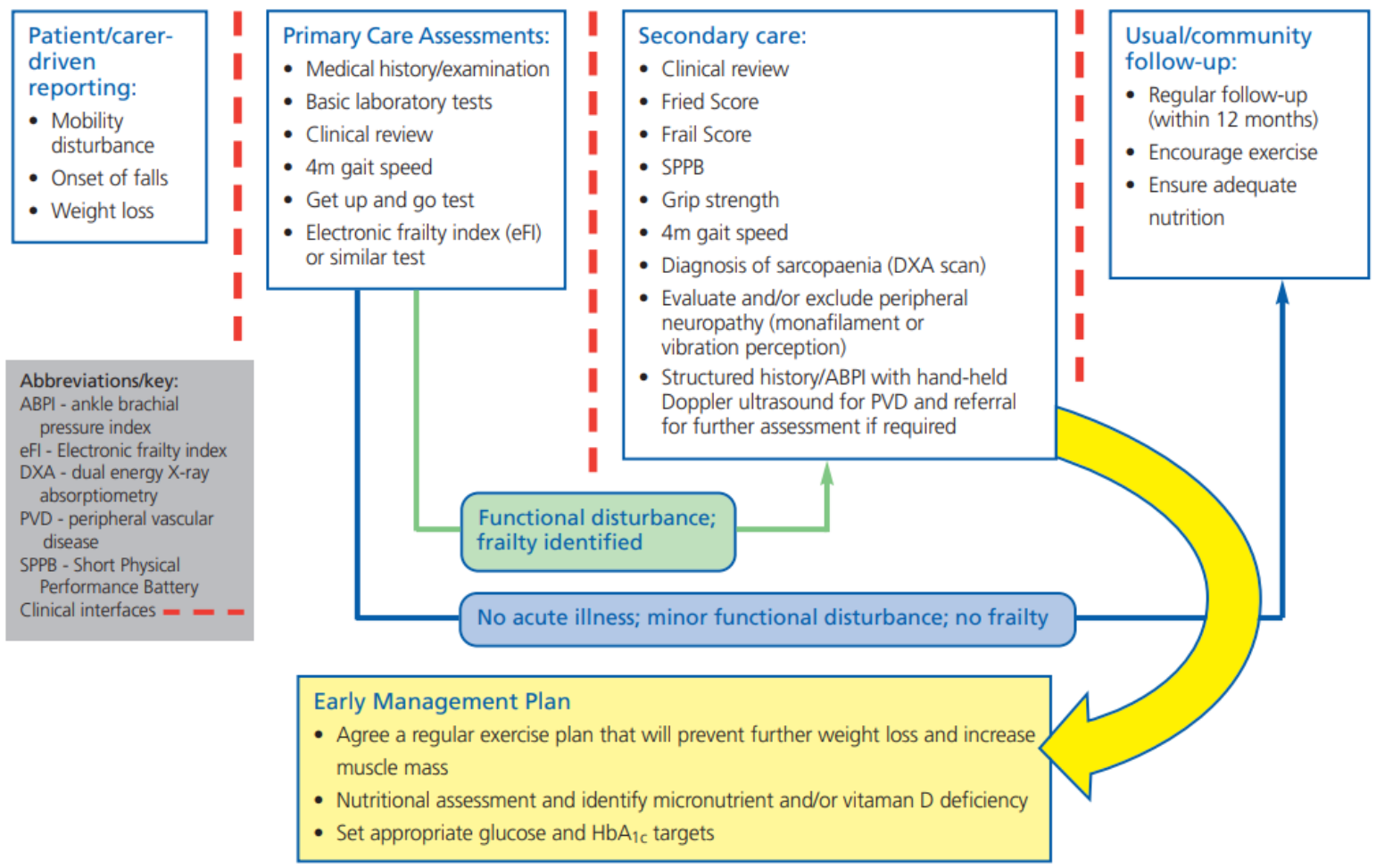

Table 1 Summary of glucose-lowering therapies in managing frail older adults with diabetes. Each class of agent can be used in frail people with diabetes but cautions are present. Numerous factors must be taken into account in prescribing a safe but effective glucose-lowering agent.

	HbA_{1c} reduction	Advantages	Disadvantages	Vignette in frail population
Metformin	1% (11 mmol/mol)	Low hypoglycaemia risk Low cost Well tolerated generally	Many contraindications in population with high comorbidity burden. May cause weight loss, GI upset in frail patients	Can be used until eGFR <30 mL/min Use with caution if previous episode of acute kidney injury Extended release formulation has lower complexity and fewer GI side effects Assess and replace vitamin B12
Sulfonylureas	1% (11 mmol/mol)	Low cost Established glucose-lowering medication Can be used in moderate to severe renal impairment	High risk of hypoglycaemia Avoid glibenclamide (glyburide)	Avoid in patients with inconsistent eating pattern such as in advanced dementia and malignancy High risk of hypoglycaemia during acute illness or weight loss Consider discontinuing if already receiving substantial amount of insulin (approximately >40 units/day) Have a high threshold for use with insulin in frail older adults
Meglitinides	0.4–0.9% (4.4–9.9 mmol/mol)	Shorter duration of action compared with sulfonylurea	Higher cost than sulfonylurea Increased regimen complexity due to multiple daily doses with meals	Can be withheld if patient refuses to eat any particular meal

TZDs, Pioglitazone	1% (11 mmol/mol)	Low hypoglycaemia risk Low cost Once a day dosing Can be used in moderate to severe renal impairment	Many contraindications in population with high co-morbidity burden such as CHF, leg oedema, anaemia, fractures Use with caution in combination with insulin	Good efficacy in older patients with high insulin resistance
DPP-4 inhibitors	0.5–0.8% (6–9 mmol/mol)	Low hypoglycaemia risk Once a day oral medication Well tolerated Can be used in renal impairment but dose adjustment required (except linagliptin)	Medium/high cost HbA_{1c} reduction modest compared with other agents Potential risk of heart failure in at-risk individuals	Can be combined with basal insulin for a low complexity regimen
SGLT-2 inhibitors	0.8–1.0% (9–11 mmol/mol)	Low hypoglycaemia risk Reasonable efficacy Risk of other adverse effects moderate Diuretic, blood pressure-lowering effect	High cost Limited experience in older population but evidence increasing Low risk of diabetic ketoacidosis which may be euglycaemic and unrecognised	In frail adults, watch for increased urinary frequency, incontinence, lower BP, genital infections, dehydration; do not initiate if eGFR is <60 mL/min; dose reduction required in the presence of renal impairment Withhold SGLT-2 inhibitors at times of acute illness or major surgery
GLP-1 receptor agonists	0.8–1.0% (9–11 mmol/mol)	Low hypoglycaemia risk Once a day and once a week formulation New formulations available in combination with basal insulin	High cost Injectable GI side effects	Monitor for anorexia, weight loss; do not use in severe renal impairment (eGFR <30 mL/min); dose reduction needed in moderate impairment (except for liraglutide and dulaglutide) Once-weekly formulations may be helpful if carer support is necessary to deliver injectable therapy
Insulin	>1% (>11 mmol/mol)	No ceiling effect Many different types including high concentrated forms have variable serum half-life and can be used to target hyperglycaemia at different times of the day; can be used in renal impairment	High risk of hypoglycaemia Need for matching carbohydrate content in patients with variable appetite when using prandial insulin Carer education and training needed if involved in administration Blood glucose testing necessary adding to cost	Use of basal insulin with other agents to lower post-prandial glucose can lower complexity of management and reduce the risk of hypoglycaemia

Glycaemic Targets

- Lack of evidence for glycaemic targets in older, frail adults
- Consider risk of hypoglycaemia
- HbA1C <53mmol/mol likely to indicate over-treatment in frail older people
- Glycaemic targets should be individualised, taking into account functional status and co-morbidities
- ABCD advise target range - 53-64mmol/mol in mild/moderate frailty

  59-69 mmol/mol in severe frailty
- Caution in interpretation of HbA1C in presence of anaemia

Blood Pressure Targets

- Target BP for adults < 80 years <140/90 mmHg (NICE)
- Target BP for adults >80 years <150/90 mmHg (NICE)
- <150/90mmHg target in frail, dependent, older adults with diabetes (ABCD)
- Lying and standing BP where possible
- ‘Start low and go slow’
- First line treatment in older adults ACEI
- Monitor renal function and electrolytes

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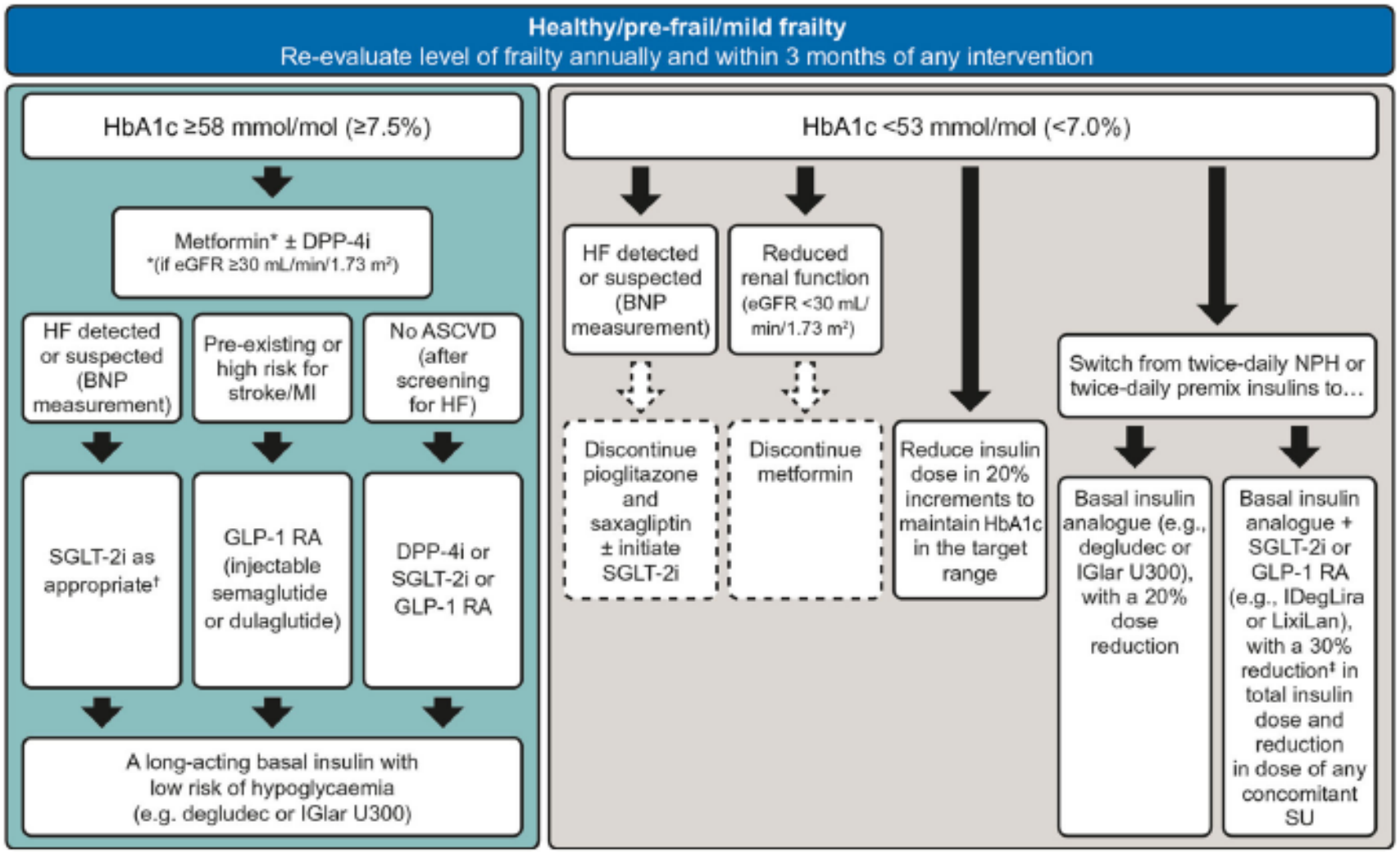
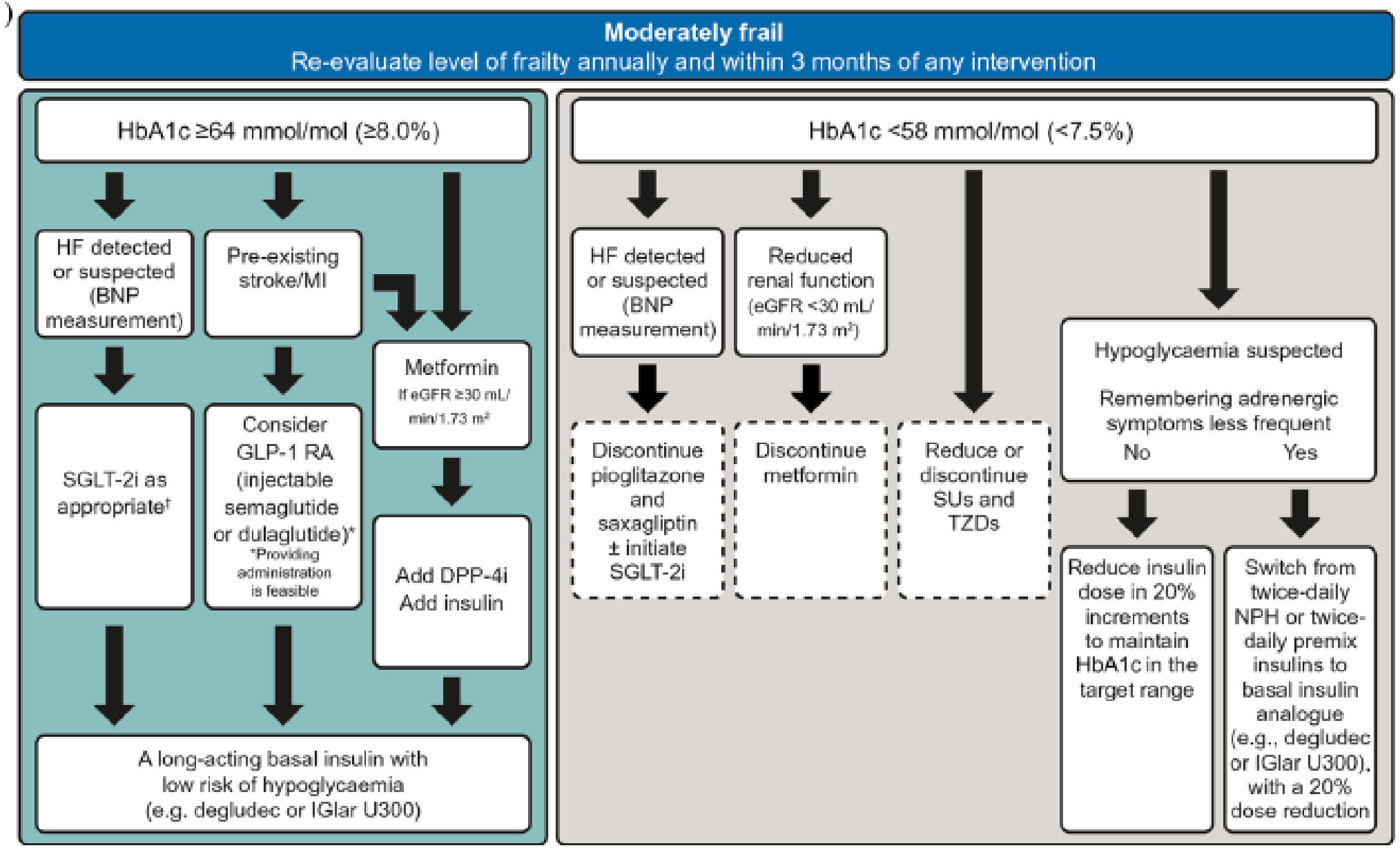
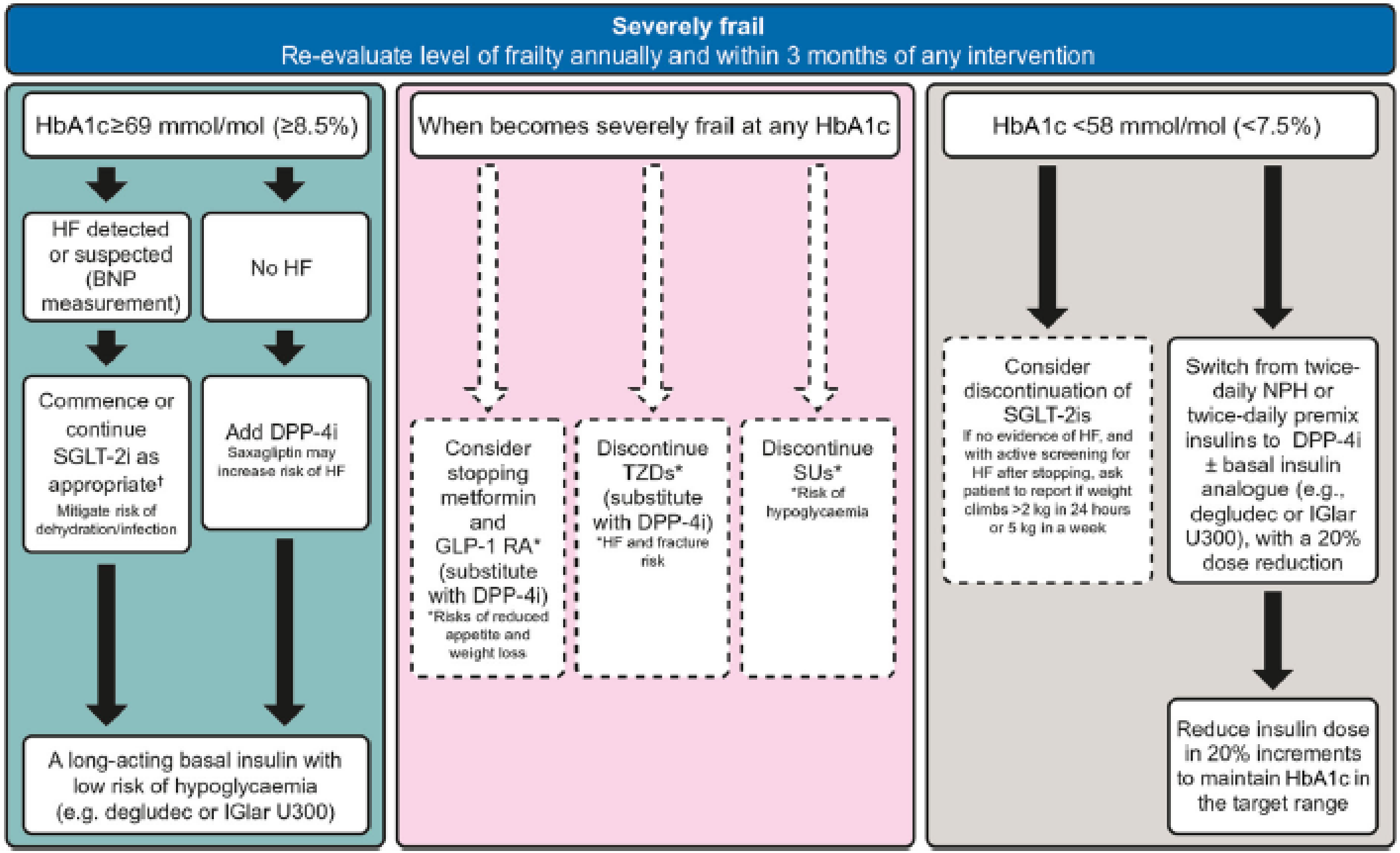



Moderately frail
Re-evaluate level of frailty annually and within 3 months of any intervention
HbA1c ≥64 mmol/mol (≥8.0%)
HF detected or suspected (BNP measurement)
Pre-existing stroke/MI
Metformin
If eGFR ≥30 mL/min/1.73 m²
SGLT-2i as appropriate†
Consider GLP-1 RA (injectable semaglutide or dulaglutide)*
*Providing administration is feasible
Add DPP-4i
Add insulin
A long-acting basal insulin with low risk of hypoglycaemia (e.g. degludec or IGlar U300)
HbA1c <58 mmol/mol (<7.5%)
HF detected or suspected (BNP measurement)
Reduced renal function (eGFR <30 mL/min/1.73 m²)
Discontinue pioglitazone and saxagliptin ± initiate SGLT-2i
Discontinue metformin
Reduce or discontinue SUs and TZDs
Hypoglycaemia suspected
Remembering adrenergic symptoms less frequent
No
Yes
Reduce insulin dose in 20% increments to maintain HbA1c in the target range
Switch from twice-daily NPH or twice-daily premix insulins to basal insulin analogue (e.g., degludec or IGlar U300), with a 20% dose reduction


Severely frail
Re-evaluate level of frailty annually and within 3 months of any intervention
HbA1c≥69 mmol/mol (≥8.5%)
HF detected or suspected (BNP measurement)
No HF
Commence or continue SGLT-2i as appropriate†
Mitigate risk of dehydration/infection
Add DPP-4i
Saxagliptin may increase risk of HF
A long-acting basal insulin with low risk of hypoglycaemia (e.g. degludec or IGlar U300)
When becomes severely frail at any HbA1c
Consider stopping metformin and GLP-1 RA* (substitute with DPP-4i)
*Risks of reduced appetite and weight loss
Discontinue TZDs* (substitute with DPP-4i)
*HF and fracture risk
Discontinue SUs*
*Risk of hypoglycaemia
HbA1c <58 mmol/mol (<7.5%)
Consider discontinuation of SGLT-2is
If no evidence of HF, and with active screening for HF after stopping, ask patient to report if weight climbs >2 kg in 24 hours or 5 kg in a week
Switch from twice-daily NPH or twice-daily premix insulins to DPP-4i ± basal insulin analogue (e.g., degludec or IGlar U300), with a 20% dose reduction
Reduce insulin dose in 20% increments to maintain HbA1c in the target range

Glycaemic targets should **not** be the only priority

Greater focus on:

- Risk of hypoglycaemia
- Falls
- Quality of life

Align inpatient glycaemic targets with frailty category

e.g. Rockwood Clinical Frailty Scale

Western Health and Social Care Trust

Guideline for the Review of Diabetes Medicines for Inpatients with Type 2 Diabetes and Frailty

March 2023

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Western Health and Social Care Trust

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Table 1: Review of diabetes medicines for inpatients with Type 2 diabetes and frailty, according to Clinical Frailty Scale (CFS)

Clinical Frailty Scale LINK	Suggested glycaemic goals Targets should be individualised			Recommended actions for Type 2 diabetes medicines *Examples of groups of medicines: sulphonylureas – gliclazide; SGLT2-inhibitors – dapagliflozin; DPP-4 inhibitors – linagliptin; GLP1RAs: liraglutide*	Blood pressure target (mmHg)	Lipids
		HbA1c (mmol/mol)	CBG (mmol/L)			
In addition to frailty, also consider history of hypoglycaemia, falls, and cognitive decline including delirium, muscle loss (sarcopenia), overall treatment burden and impact on QoL.						
1-4 fit older adults	Strictly AVOID blood glucose < 4 and >15 mmol/L	**≤58** Target **≤53** Prompt for de-escalation	**6-10** Target **6-12** Acceptable	As per NICE guidelines		
5 mild frailty **6** moderate frailty		**≤64** Target <70 CKD **≤58** Prompt for de-escalation	**7.8-10** Target **6-12** Acceptable	**General** Review timing of administration of diabetes medicines in relation to timing of meals and snacks Measure HbA1c on admission if no value available for within last 6 months Avoid initiating agents that may cause hypoglycaemia (e.g. sulfonylureas) Check whether the agent is contraindicated in impaired renal function e.g. metformin: eGFR < 30ml/min - contraindicated; eGFR 30-44ml/min, maximum daily dose 1000mg **Metformin** First-line agent; benefits seen even at low dose and/or once daily Consider slow release preparation if nausea, diarrhoea or appetite suppression experienced **Sulfonylureas and short-acting insulins** Evaluate long-acting sulfonylureas and short-acting insulin therapy that may cause hypoglycaemia Reduce or discontinue sulfonylureas if HbA1c below de-escalation threshold **SGLT2-inhibitors** Clarify indication/s. May provide additional benefit in heart failure and CKD. Care in hypovolaemia, hypotension, infection/candidiasis – consider holding, especially for surgery; check ketones if acutely unwell	**150/90** for hypertension Reduce or stop anti-hypertensives as appropriate to avoid hypotension (NB consider if for indications other than hyper-tension e.g. HF)	Consider whether benefits will be realised in remaining time-span wrt frailty. Benefits from trials were generally found over 5 years. Resources include Polypharmacy Guidance p62 and Gloucestershire Statin Guideline p6
7 severe frailty		**<70** Target **≤64** Prompt for de-escalation	**7.5-12** Target **6-12** Acceptable	*As for CFS 5 and 6 plus:* For short-acting insulins, **once acute illness resolved**: **T2DM only** – discuss with MDT consider switch to alternative insulin or stopping insulin if only on a small dose Consider a DPP-4 inhibitors if new or alternative therapy needed Avoid SGLT2-inhibitors for T2DM – NB. consider whether using/needed for other indication/s Use of SGLT2-inhibitors (for T2DM) and GLP1RAs limited		
8 very severe frailty		**No measurement of HbA1c** **Avoid hypoglycaemia**		*As for CFS 7 but also:* Withdraw sulfonylureas Consider End of Life diabetes care	Avoid hypotension	Stop lipid-lowering therapy
9	Terminally ill. Consult End of Life specialists and guidance, including Diabetes at EOL Guidelines - All Documents (n-i.nhs.uk)					
Recommendations are for Type 2 diabetes. In Type 1 diabetes, always maintain background insulin. Only stop in End of Life care and progressing to active dying.						

De-escalation of treatment and targets

- Loosening of blood glucose control targets and other measures to reduce burden of diabetes treatment and monitoring
- De-prescribing
- Part of routine diabetes care
- Individualised
- Shared decisions with patient, carers, family

When to consider de-escalation, deprescribing?

- HbA1C <53 mmol/mol
- Previous severe hypoglycaemia
- Multiple co-morbidities
- Short life expectancy
- Low functional status
- Recurrent falls

Adverse effects of medications

- Burdensome over-monitoring
- Patient goals, preference

Plan

- Identify the problems
- Determine patients goals for diabetes care
- Identify if the patient is suitable for deintensification of treatment

- Discuss de-prescribing
  Risks of current treatment, treatment targets
  Present options
  Shared decision making

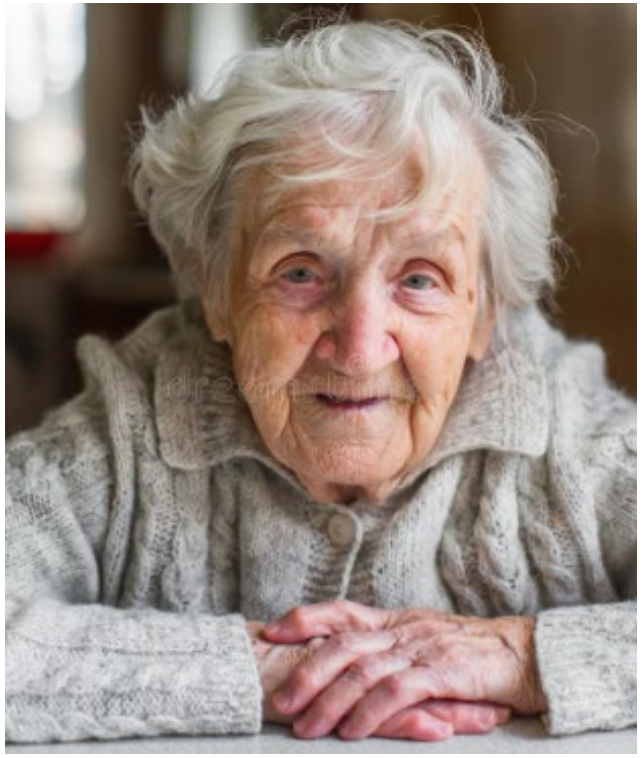
Plan

- Stopping or reduced dose of medication
- Start with drug most likely to cause harm or side-effects
- Consider switching to medication with lower risk or harm
- Consider simplification of insulin regimen(if using)
- Step-wise approach
- Check HbA1C after a few months

Case

- 75 year old man
- Type 2 diabetes, diagnosed 26 years ago
- Widowed, lives alone, non-driver
- Mobile short distances, lives independently (CFS~4) mild frailty
- PMH IHD (STEMI, CABG), impaired LV function, CVA, carotid endarterectomy, PVD
- Medications- metformin 500mg bd, gliclazide 40mg bd, atorvastatin 40mg daily, Entresto, nebivolol , clopidogrel , furosemide 20mg daily, spironolactone 12.5 mg daily, dapagliflozin 10mg daily
- CBGs 5-6 mmol/L, no hypo symptoms
- HbA1C 45, eGFR 52, ACR 5, BP 104/66 mmHg 90kg

Case study: Margaret



- Age: 88
- Admitted via ED
- Fall – c/o pain L shoulder; unsure if hit head
- AKI
- (+ vulvo-vaginal candidiasis)
- Fourth admission in 12 months, (falls, UTI)
- Med Hx: T2DM, HTN, recurrent UTIs, slow AF, CKD 3
- POC x 2. CFS 5-6 lives with husband who has dementia.

Other clinical parameters

- Baseline SrCr: 81 micromol/L
- **Current SrCr: 139** micromol/L
- Baseline eGFR: 55-59 mL/min
- K: 3.6 mmol/L
- Na: 138 mmol/L
- Urea: 10.1 mmol/L

- Weight: 55kg
- **BG: 5-6** mmol/L
- **HbA1c: 36** mmol/mol
- Last 24 hours **SBP: 90-100** mmHg
- Last 24 hours DBP: 54-60 mmHg

Pre-admission medicines

- Adcal D3 caplets – two tabs twice daily
- Apixaban 2.5mg BD
- Amlodipine 5mg daily
- Dapagliflozin 10mg daily
- Metformin 1g twice daily breakfast and evening meal

- Allergies and intolerances: beta-blockers (fatigue) and Ace-Inhibitors (cough)

Medicines for discharge

- Stop amlodipine
- Complete course clotrimazole cream
- Prn paracetamol
- Restart metformin ? Dose?
- Restart Dapagliflozin?

Follow-up

- Repeat HbA1c in 3-6 months
- Check BP 1-2 weeks
- Communicate target/s

Case Study 2 :Derek
Background

- 75 year old male BIBA to ED 09.03.23 referred by GP with unstable blood glucose, urinary retention and safeguarding concerns

Past Medical History

- T2DM on Novomix 30 10 units daily plus Metformin 1g BD
- (incorrectly clerked as T1DM)
- Depression
- Osteoarthritis RH
- Renal Stones

Social History

- Lives alone in an isolated rural bungalow, no POC, sisters visit 4-5 times daily providing ADLs
- Reduced mobility since December 22
- Declining social services input

Relevant Drug History

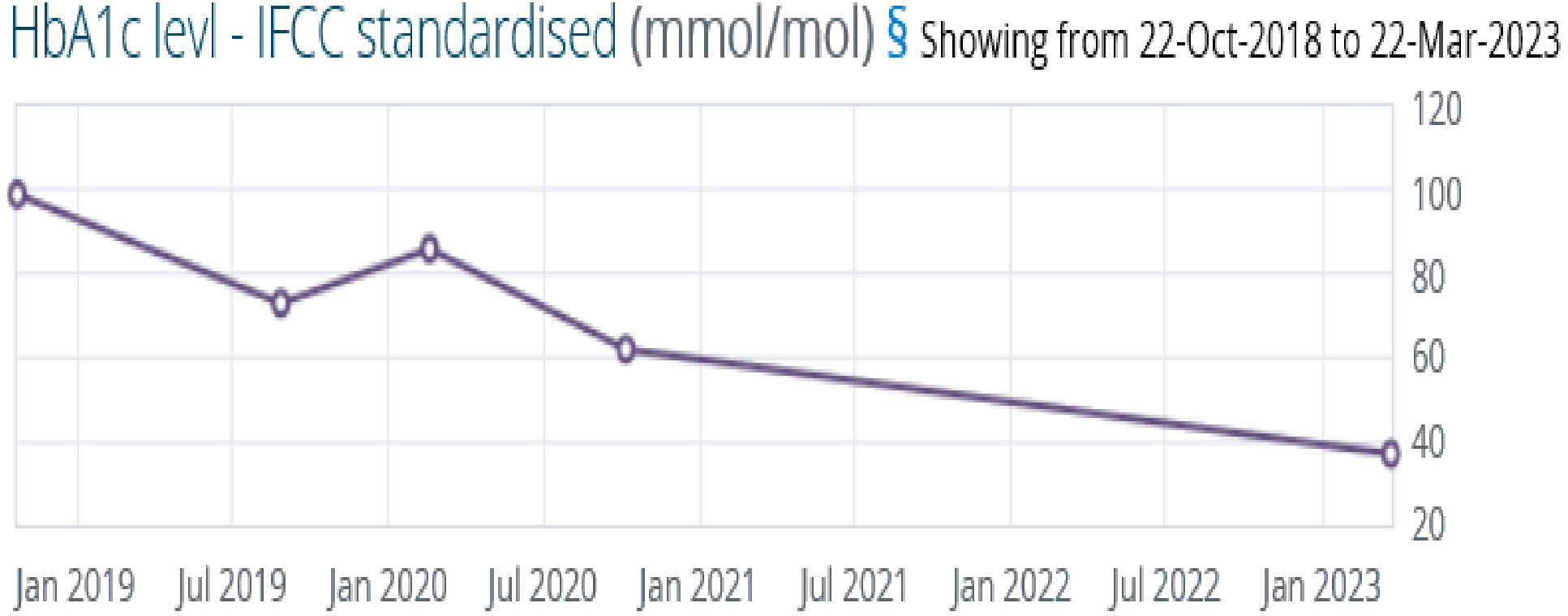
- Metformin 1g BD Tamsulosin, Diazepam 6mg BD, Duloxetine , Pyridoxine, Salbutamol MDI, Aspirin, Simvastatin, Irbesartan, Novomix 30 10 units Mane, lansoprazole, Temazepam, Clomipramine

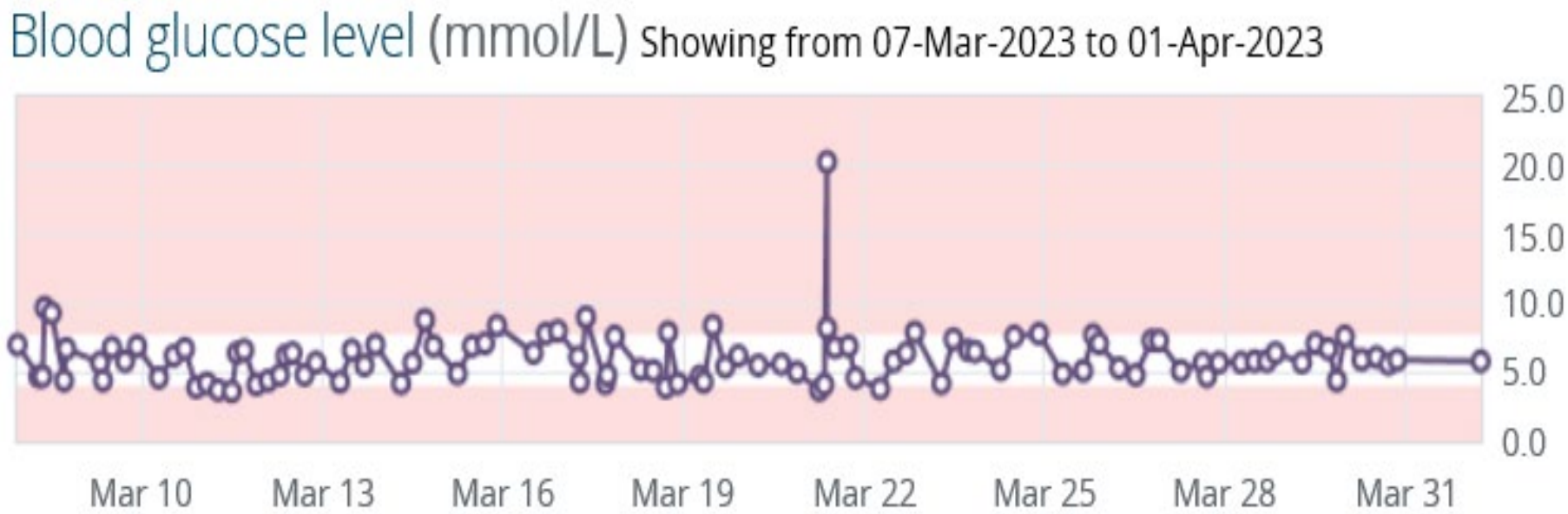
On Review

- Off functional baseline
- RCFS (1-9) = 7 (severe frailty, dependent on personal care, stable seems stable and not at risk of dying within ~6 months)
- Evidence of urinary retention- catheterised
- Low folate, B12, vitamin D, Hb 96, hba1c 37.

Outcome

- Spent 3 weeks in hospital gradually mobilising
- Initial hypoglycaemia followed by normal blood glucose levels once all diabetes agents stopped
- CTMA 31.03.23 discharged on nil diabetes meds.
- MDT review 26.04.23


HbA1c levl - IFCC standardised (mmol/mol) § Showing from 22-Oct-2018 to 22-Mar-2023
120
100
80
60
40
20
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Jul 2021
Jan 2022
Jul 2022
Jan 2023


Blood glucose level (mmol/L) Showing from 07-Mar-2023 to 01-Apr-2023
25.0
20.0
15.0
10.0
5.0
0.0
Mar 10
Mar 13
Mar 16
Mar 19
Mar 22
Mar 25
Mar 28
Mar 31

Any thoughts?

- Risks going forward?
- How to review?
- Any other suggestions re care or Rx?

Summary

Frailty is common in older people with diabetes

Identification of frailty is important in management in older people with diabetes

Older, frail adults with diabetes are less likely to benefit from intensive diabetes treatment

Hypoglycaemia is a particular risk for older frail adults

Individualise care and treatment targets

Emphasis on patient safety

Thank you !