

A RISK-BASED APPROACH TO MANAGING TYPE 2 DIABETES

APPLYING THE UPDATED NICE GUIDELINE NG28 IN CLINICAL PRACTICE

Visit the [See Beyond Sugar webpage](#) to learn more about managing cardiorenal risk in type 2 diabetes and improving patient outcomes



Forxiga (dapagliflozin) is indicated in adults for the treatment of: insufficiently controlled type 2 diabetes mellitus (T2D); symptomatic chronic heart failure; and chronic kidney disease (CKD).

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to AstraZeneca by visiting <https://aereporting.astrazeneca.com> or by calling 0800 783 0033.



Assess and treat cardiorenal risk in patients with T2D, in addition to glycaemic control

Why?

Patients with T2D are commonly at risk of **under-recognised heart and kidney complications, such as HF, aCVD and kidney impairment leading to CKD**¹⁻³

- Heart failure and kidney disease are the most frequent complications and are associated with significant morbidity and mortality risk^{3,4}

When?

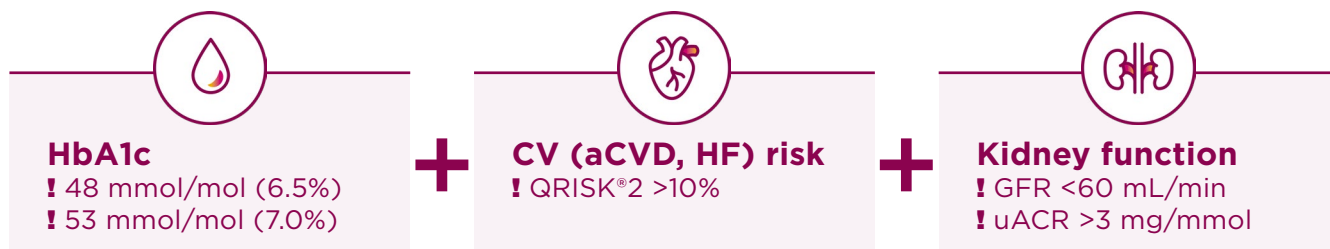
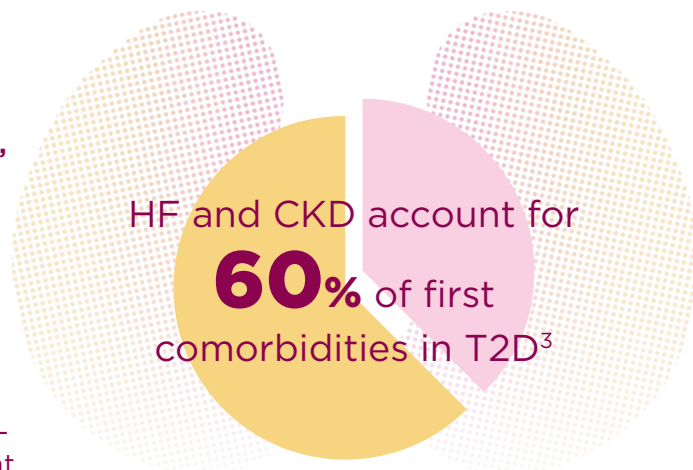
Assess cardiorenal risk in your existing- and newly-diagnosed patients to determine first-line treatment

If, at **any stage** after first-line treatment, their CV risk changes, review further interventions

How?



Proactively managing your patients' risk for HF, aCVD and kidney disease is equally as important as glycaemic control. **Assess:**⁵



Who and what?



For **patients with HF or established aCVD**, offer **first-line, an SGLT2i with proven CV benefit** (in addition to metformin)⁵

For **patients at high risk of CVD (QRISK[®]2 >10%)**, consider an **SGLT2i with proven CV benefit** (in addition to metformin)⁵

For patients not at high risk of developing CVD; who do not have chronic HF/established aCVD, metformin monotherapy remains the recommended first-line treatment option⁵

SGLT2 inhibition demonstrates **proven cardiorenal benefits**



(a)CV(D) = (atherosclerotic) cardiovascular (disease); CKD = chronic kidney disease; GFR = glomerular filtration rate; HbA1c = haemoglobin A1c; HF = heart failure; SGLT2i(s) = sodium-glucose cotransporter-2 inhibitor(s); T2D = type 2 diabetes; uACR = urine albumin to creatinine ratio.

1. NHS. End of life care in heart failure. <https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/heart-failure.pdf> Accessed March 2023; 2. Kidney Care UK. Facts and Stats. <https://www.kidneycareuk.org/news-and-campaigns/facts-and-stats/> Accessed March 2023; 3. Birkeland KI *et al. Diabetes Obes Metab* 2020;22:1607-1618; 4. Einarson TR *et al. Cardiovasc Diabetol* 2018;17:83; 5. ©NICE [2022] Type 2 diabetes in adults: management. Available from www.nice.org.uk/guidance/ng28 All rights reserved. Subject to [Notice of rights](#). NICE guidance is prepared for the National Health Service in England. All NICE guidance is subject to regular review and may be updated or withdrawn. NICE accepts no responsibility for the use of its content in this product/publication.

Personalise targets and treatments to reduce cardiorenal risk¹

Measure HbA1c calibrated according to IFCC standardisation



Estimate CV risk using the QRISK[®]2 assessment tool



Assess eGFR status for kidney function

Discuss and agree an individual HbA1c target:

- **48 mmol/mol (6.5%):** T2D managed either by lifestyle and diet ± single drug not associated with hypoglycaemia
- **53 mmol/mol (7.0%):** T2D drug associated with hypoglycaemia

Prioritise a full formal risk assessment if estimated 10-year CVD risk is ≥10%²

QRISK[®]2 >10% in adults over 40 years of age, with T2D e.g.:

- 50-YO white male³
- 52-YO white female with HTN³

OR

Presence of ≥1 CVD risk factor in someone under 40 years of age, with T2D e.g.:

- 38-YO Black African female with HTN

For patients who are taking an ARB or an ACEi (titrated to the highest licensed dose that they can tolerate) if ACR is ≥3 mg/mmol:

Offer:

Consider:

SGLT2i (in addition to the ARB/ACEi) if:

uACR >30 mg/mmol and

uACR 3–30 mg/mmol and

they meet the criteria in the SGLT2i marketing authorisation (including relevant eGFR thresholds).


Additionally, urine monitoring for albuminuria or proteinuria by uACR is an important indicator of kidney damage and CVD risk.⁴

ACEi = angiotensin-converting enzyme inhibitor; ARB = angiotensin receptor blocker; CV(D) = cardiovascular (disease); eGFR = estimated glomerular filtration rate; HbA1c = haemoglobin A1c; HTN = hypertension; IFCC = International Federation of Clinical Chemistry; SGLT2i(s) = sodium-glucose cotransporter-2 inhibitor(s); T2D = type 2 diabetes; uACR = urine albumin to creatinine ratio; YO = years-old.

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NICE guidelines now recommend first-line SGLT2i + metformin based on CVD assessment

Based on the CV risk assessment for the person with T2D:¹

For patients with chronic HF or established aCVD	For patients at high risk of developing CVD	For patients not at high CVD risk
Offer an SGLT2i with proven CV benefit in addition to metformin	Consider an SGLT2i with proven CV benefit in addition to metformin	Offer standard-release metformin as first-line drug treatment
Before starting SGLT2is 		
If metformin is contraindicated, offer an SGLT2i with proven CV benefit	If metformin is contraindicated, consider an SGLT2i with proven CV benefit	If metformin is contraindicated or not tolerated, consider : <ul style="list-style-type: none">• DPP-4i or• Pioglitazone or• SU or• an SGLT2i for people who meet the criteria in NICE's technology appraisal guidance on canagliflozin, dapagliflozin and empagliflozin as monotherapies or ertugliflozin▼ as monotherapy or with metformin for treating T2D

For patients at any stage after they have started first-line treatment:

If they have or develop chronic HF or established aCVD, offer an SGLT2i with proven CV benefit in addition to current treatment or replace an existing drug with the SGLT2i

Navigate the complete NICE guideline NG28 updates



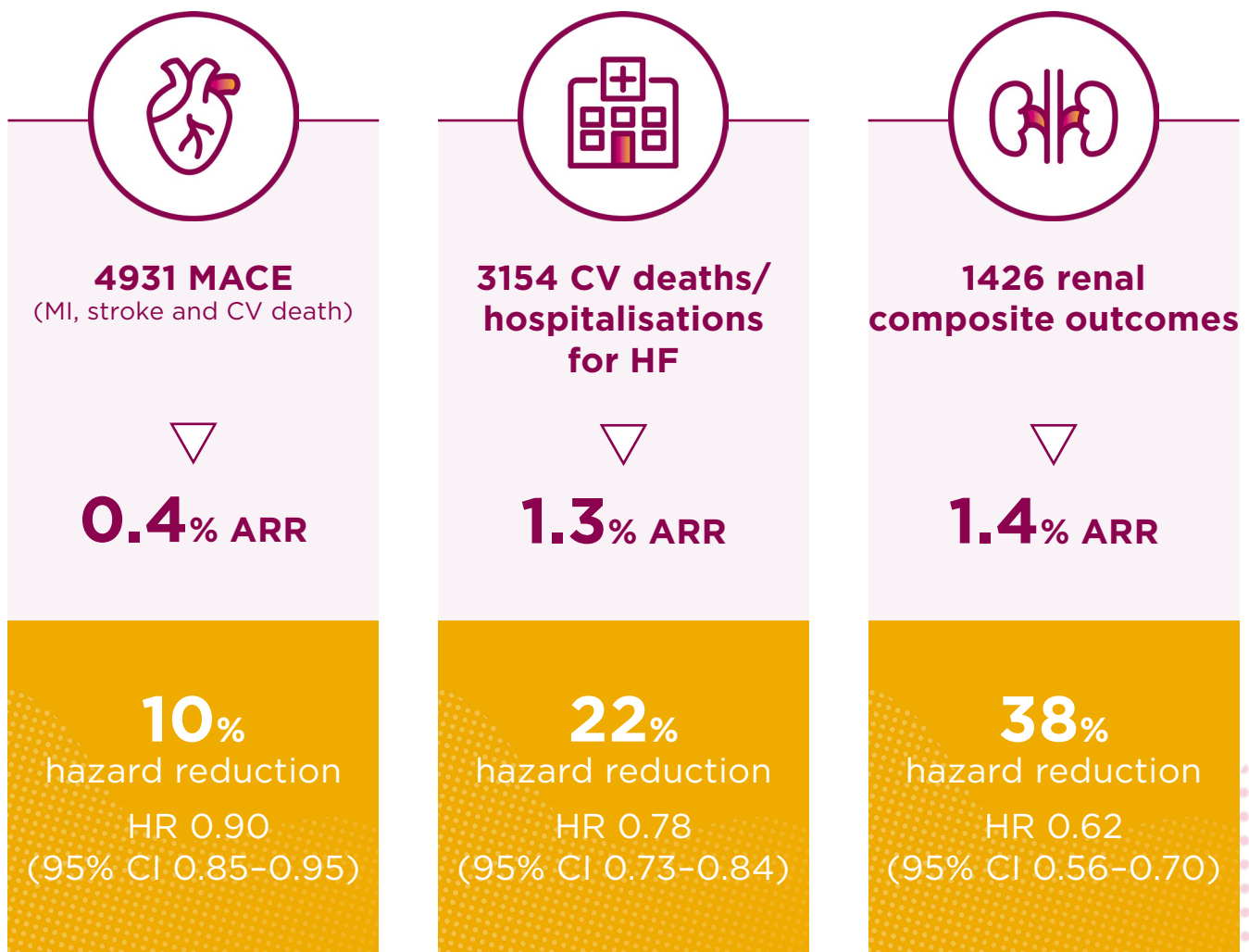
(a)CV(D) = (atherosclerotic) cardiovascular (disease); DPP-4i = dipeptidyl peptidase 4 inhibitor; HF = heart failure; NICE = National Institute for Health and Care Excellence; SGLT2i(s) = sodium-glucose cotransporter-2 inhibitor(s); SU = sulphonylurea; T2D = type 2 diabetes.

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SGLT2 inhibition demonstrates proven cardiorenal benefits

A recently published meta-analysis assessing the CV and kidney outcomes of all available SGLT2is adds to the growing evidence base that SGLT2is in general are associated with favourable CV and kidney outcomes

Data from six placebo-controlled (+ background SoC) trials (**EMPA-REG OUTCOME, CANVAS, CANVAS-R, DECLARE-TIMI 58, CREDENCE, VERTIS-CV**), totalling 46,969 patients with T2D (66.2% with aCVD) demonstrated significant reductions with SGLT2i treatment:



Read the Scientific Story for a more detailed explanation of how SGLT2is lead to favourable CV outcomes



Before starting SGLT2is

- Introducing the drugs sequentially enables any side effects and intolerances from the first drug to be identified before the second drug is introduced
- NICE recommend starting with metformin and then adding the SGLT2i without delay once metformin tolerability is established, to avoid people remaining on metformin alone for prolonged periods
- **Before starting an SGLT2i, check whether the person may be at increased risk of DKA, for example if:**
 - they have had a previous episode of DKA (address modifiable risks)
 - they are following a very low carbohydrate or ketogenic diet
 - they are unwell with intercurrent illness

SGLT2is as monotherapy

NICE technology appraisals recommend **SGLT2is as monotherapy** options in people:

- who cannot have metformin
- and**
- for whom diet and exercise alone do not provide adequate glycaemic control

The SGLT2is are recommended only if a DPP-4i would otherwise be prescribed and a sulfonylurea or pioglitazone is not appropriate

DKA = diabetic ketoacidosis; DPP-4i = dipeptidyl peptidase-4 inhibitor; NICE = National Institute for Health and Care Excellence; SGLT2i(s) = sodium-glucose cotransporter-2 inhibitor(s).

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