NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Insulin icodec for treating type 2 diabetes

Final scope

Draft remit/evaluation objective

To appraise the clinical and cost effectiveness of insulin icodec within its marketing authorisation for treating type 2 diabetes.

Background

Diabetes mellitus is a chronic metabolic disorder characterised by elevated blood glucose levels (hyperglycaemia) resulting from a lack of the hormone insulin or resistance to its action. Type 2 diabetes results from reduced insulin secretion or reduced tissue sensitivity to insulin (known as insulin resistance)[1]. If not managed effectively, diabetes mellitus can lead to kidney failure, blindness, foot problems, and damage to the nervous system[2]. People with diabetes are also more at risk of cardiovascular disease[3].

There were around 4.4 million people in the UK with diagnosed diabetes mellitus in 2022-2023, of whom around 90% have type 2 diabetes [4,5]. Additionally, it is estimated that over 1.2 million people have undiagnosed type 2 diabetes[4,5]. People from Black African, African Caribbean and South Asian family backgrounds are at a higher risk of developing type 2 diabetes from a younger age[6].

NICE's guideline on type 2 diabetes in adults: management (NG28) recommends reinforcing advice on diet, lifestyle and adherence to drug treatment for all people with type 2 diabetes.

If blood glucose levels are not controlled by diet and exercise alone, NG28 recommends the following first-line drug treatment:

- Standard-release metformin.
- For people with chronic heart failure, atherosclerotic cardiovascular disease or at high risk of cardiovascular disease: a dual therapy of a selective sodium glucose-cotransporter 2 (SGLT2) inhibitor with proven cardiovascular benefit and metformin.
- If metformin is contraindicated or not tolerated for people with chronic heart failure, atherosclerotic cardiovascular disease or at high risk of cardiovascular disease: an SGLT2 inhibitor with proven cardiovascular benefit.
- If metformin is contraindicated or not tolerated for people who are not at risk of or without cardiovascular disease: a dipeptidyl peptidase-4 (DPP-4) inhibitor, pioglitazone, or a sulfonylurea.
- If a DPP-4 inhibitor would otherwise be prescribed and a sulfonylurea or pioglitazone is not appropriate: an SGLT2 inhibitor such as canagliflozin, dapagliflozin, and empagliflozin (TA390) or ertugliflozin (TA572).

When there is inadequate glycaemic control following first-line monotherapy, NG28 recommends adding one of the following treatment options:

- A DPP-4 inhibitor, pioglitazone or a sulfonylurea.
- For people taking metformin and a sulfonylurea is contraindicated or not tolerated or the person is at significant risk of hypoglycaemia or its consequences: a SGLT2 inhibitor (canagliflozin [TA315], ertugliflozin [TA572], dapagliflozin [TA288] or empagliflozin [TA336]).

If there is inadequate glycaemic control with dual therapy, NG28 recommends either:

- Triple therapy by adding a DPP-4 inhibitor, pioglitazone or a sulfonylurea, or
- For people taking metformin and a sulfonylurea: triple therapy by adding a SGLT2 inhibitor (canagliflozin [TA315], dapagliflozin [TA418], empagliflozin [TA336]), or
- For people taking metformin and a thiazolidinedione: triple therapy by adding a SGLT2 inhibitor (canagliflozin [TA315], empagliflozin [TA336]), or
- For people taking metformin and a DPP-4 inhibitor which inadequately controls disease and for whom a sulfonylurea or pioglitazone is not appropriate: triple therapy by adding ertugliflozin (TA583), or
- Insulin-based treatment

If metformin is contraindicated or not tolerated and dual therapy with 2 oral drugs has provided inadequate control, NG28 recommends:

- Insulin-based treatment

If triple therapy with metformin and 2 other oral drugs is not effective, not tolerated or contraindicated, triple therapy by switching one drug for a GLP-1 mimetic (such as dulaglutide, exenatide, liraglutide, lixisenatide, semaglutide, or tirzepatide [TA924]) is recommended for some people.

The technology

Insulin icodec (Awiqli, Novo Nordisk) is a once-weekly, long-acting basal insulin. It does not currently have a marketing authorisation in the UK for type 2 diabetes mellitus. It has been compared with other long-acting insulin analogues:

- in people with type 2 diabetes with inadequate glycaemic control who are insulin treatment naïve and have had background non-insulin anti-diabetic treatment.
- in people with type 2 diabetes who have previously had insulin in combination with or without background non-insulin anti-diabetic treatment.

Intervention(s)	Insulin icodec
Population(s)	Adults with type 2 diabetes

Subgroup(s)	If the evidence allows, the following subgroup may be considered: • People who are insulin naïve • People who have previously had insulin
Comparators	The following interventions as monotherapy or in combination regimens, in line with NICE guidance: • metformin • sulfonylureas • DPP-4 inhibitors • pioglitazone • GLP-1 mimetics • SGLT-2 inhibitors • insulin treatments
Outcomes	The outcome measures to be considered include: • HbA1c/ glycaemic control • frequency and severity of hypoglycaemia • time to treatment stopping or intensification • body mass index, body weight, waist circumference • cardiovascular risk factors, including blood pressure and lipids • microvascular complications of diabetes, including damage to nerve, kidney and eye • macrovascular complications of diabetes including coronary artery disease, peripheral arterial disease, stroke and lower limb amputations • mortality • total weekly insulin dose • adverse effects of treatment • health-related quality of life.

Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective. The availability of any commercial arrangements for the intervention, comparator and subsequent treatment technologies will be taken into account. The availability of any managed access arrangement for the intervention will be taken into account. The availability and cost of biosimilar and generic products should be taken into account.
Other considerations	Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.
Related NICE recommendations	**Related technology appraisals:** Tirzepatide for treating type 2 diabetes (2023) NICE technology appraisal guidance 924 Ertugliflozin with metformin and a dipeptidyl peptidase-4 inhibitor for treating type 2 diabetes (2019) NICE technology appraisal guidance 583 Ertugliflozin as monotherapy or with metformin for treating type 2 diabetes (2019) NICE technology appraisal guidance 572 Dapagliflozin in triple therapy for treating type 2 diabetes (2016) NICE technology appraisal guidance 418 Canagliflozin, dapagliflozin and empagliflozin as monotherapies for treating type 2 diabetes (2016) NICE technology appraisal guidance 390 Empagliflozin in combination therapy for treating type 2 diabetes (2015) NICE technology appraisal guidance 336 Canagliflozin in combination therapy for treating type 2 diabetes (2014) NICE technology appraisal guidance 315 Dapagliflozin in combination therapy for treating type 2 diabetes (2013, updated 2016) NICE technology appraisal guidance 288

	Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (2008) NICE technology appraisal guidance 151 **Related NICE guidelines:** Type 2 diabetes in adults: management (2015, updated 2022) NICE guideline 28. **Related NICE guidelines in development:** Type 2 diabetes in adults: management (medicines update). NICE guideline. Publication expected December 2024 **Related quality standards:** Type 2 diabetes in adults (2023) NICE quality standard 209
Related National Policy	NHS England (2024) NHS Type 2 Diabetes Path to Remission Programme service specification (2023) NHS England (2023) Prescribed specialised services manual (version 6) Chapter 9. Adult specialist endocrinology services The NHS Long Term Plan (2019) NHS Long Term Plan

References

1. NHS Diabetes. Accessed March 2024
2. Diabetes UK Complications of diabetes. Accessed March 2024
3. Diabetes UK Diabetes and heart disease. Accessed March 2024
4. Diabetes UK Statistics: How many people in the UK have diabetes?. Accessed July 2024
5. ONS: Population estimates. Accessed March 2024
6. Diabetes UK Diabetes ethnicity: Ethnicity and type 2 diabetes. Accessed March 2024