



Guidelines on the Management of Type 2 Diabetes

Miles Fisher^{1,2}

¹School of Medicine, Dentistry and Nursing, University of Glasgow, Glasgow, United Kingdom

²Department of Diabetes, Endocrinology & Clinical Pharmacology, Glasgow Royal Infirmary, Glasgow, United Kingdom

Address for correspondence Miles Fisher, MD, Department of Diabetes, Endocrinology & Clinical Pharmacology, Glasgow Royal Infirmary, 84 Castle Street, Glasgow, G4 0SF, UK (e-mail: miles.fisher@ggc.scot.nhs.uk).

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Introduction

The Emirates Diabetes Society (EDS) consensus guidelines for the management of type 2 diabetes were published in 2020.¹ To produce the consensus guideline, the EDS convened a panel of experts who were tasked with adapting key research findings and international guidelines for local use. The final publication was reviewed by the panel and represented its collective analysis and recommendations. It was particularly based on the 2019 guideline on diabetes, prediabetes, and cardiovascular disease produced by the European Association for the Study of Cardiology (ESC) in collaboration with the European Association for the Study of Diabetes (EASD),² and on the 2020 Standards of Care from the American Diabetes Association (ADA).³ The process was facilitated by an unrestricted grant from Novo Nordisk who did not participate in any of the meetings or the drafting of the manuscript. Key recommendations were made on screening, interventions for prediabetes, structured education, physical activity, nutrition therapy, and pharmacotherapy. The recommendations on pharmacotherapy took account of the person's risk of cardiovascular disease. How do the EDS consensus guidelines compare with other guidelines and consensus statements on the management of type 2 diabetes, and what approaches could be taken when the EDS consensus guidelines are reviewed?

What Are Guidelines and Consensus Statements?

Clinical guidelines are systematically developed statements to assist practitioners and patients make decisions about the appropriate health care for specific clinical circumstances. They provide recommendations for effective practice in the management of clinical conditions where variations in practice are known to occur and where effective care may not be delivered uniformly. As an example, the care that people with diabetes receive from a dedicated hospital-based diabetes team will vary from the care delivered by nonspecialist hospital doctors and by family doctors. Evidence-based guidelines are derived from a systematic review of the literature and there are agreed international methodologies to do this. These include development by multidisciplinary teams using pretested search strategies to identify appropriate evidence that is then critically appraised. The search strategies are usually based around specific questions, for example, what is the most effective first-line antidiabetic drug to improve prognosis, what are the best criteria for the diagnosis of diabetes? Once the evidence is critically appraised, it is generally scored and then recommendations are made.⁴

There are many so-called guidelines for the management of people with diabetes. Analysis of these, however, shows that several guidelines are based on a consensus of expert

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opinion or a nonsystematic review of the literature.⁵ These are sometimes termed “consensus reports” or “consensus statements.” This approach is more prone to bias in the conclusions and recommendations than true evidence-based guidelines.

Current Guidelines on Pharmacotherapy for Type 2 Diabetes

There are many local, national, and international guidelines on the management of type 2 diabetes. These may address multiple aspects of diabetes care or may focus on the use of antidiabetic drugs. At the international level, the 2017 International Diabetes Federation guidelines on managing type 2 diabetes in primary care recommend the use of metformin as first-line therapy.⁶ The addition of sulfonylureas, DPP-4 inhibitors, SGLT2 inhibitors, or alpha glucosidase inhibitors are recommended as second-line options when treatment with metformin monotherapy fails to reach the hemoglobin A1c (HbA1c) target. Third-line options include the addition of insulin, triple therapy with three oral agents, or GLP-1 receptor agonists.

More recently, the 2019 guidelines from the ESC, which informed the EDS report, contained some novel and controversial differences from the IDF guidelines and other diabetes guidelines and consensus statements. For drug-naïve patients with existing cardiovascular disease or who are at high cardiovascular risk, it recommended first-line therapy with a SGLT2 inhibitor or GLP-1 receptor agonist, with second-line metformin if HbA1c is above target.² Similarly, for patients with existing cardiovascular disease or high cardiovascular risk who are on metformin monotherapy a SGLT2 inhibitor or GLP-1 receptor agonist should be added regardless of HbA1c. For patients without cardiovascular disease and at lower cardiovascular risk, metformin was recommended first line as in the IDF guidelines, with other drugs added if HbA1c targets are not reached. This is also the recommended approach in the EDS report. The ESC guidelines on diabetes and cardiovascular disease are under review and new guidelines should be published in 2023.⁷

In the UK, the National Institute for Health and Care Excellence (NICE) guidelines on the management of type 2 diabetes in adults were partly updated in 2022.⁸ This idiosyncratic update recommends first-line metformin for all patients, with the addition of a SGLT2 inhibitor as soon as metformin tolerability is confirmed for patients with chronic heart failure, established atherosclerotic cardiovascular disease, or those at high risk of cardiovascular disease. The cardiovascular benefits of GLP-1 receptor agonists are not acknowledged in the NICE update, as SGLT2 inhibitors are deemed to more cost-effective, and GLP-1 receptor agonists are relegated to third-line therapy in patients with a high body mass index. NICE has recently announced that are updating the drug treatments section of the guideline in full, and as a full review with systematic review, appraisal, scoring and making recommendations is a lengthy process the estimated date for consultation on the draft is the summer of 2024 with estimated publication at the end of 2024.⁹

Current Consensus Statements on Pharmacotherapy for Type 2 Diabetes

As they are not based on a detailed systematic review of the literature followed by a formal appraisal process, consensus statements are faster to produce, but as mentioned earlier are more prone to bias. This methodology is preferred by the ADA, as it allows them to produce annual standards of medical care in diabetes, including pharmacological approaches to glycemic treatments for adults with type 2 diabetes.¹⁰ Less frequently, the ADA produces consensus reports on the management of hyperglycemia in type 2 diabetes jointly with the EASD.^{11,12} These long and detailed consensus reports are complex and act as an up-to-date summary for specialists in diabetes care, but they are not user friendly for a nonspecialist or family practitioner. They integrate the recommendations into an algorithm that summarizes the consensus rather than as a series of individual recommendations.

The most recent consensus report was published in 2022.¹³ For patients with existing cardiovascular disease, high cardiovascular risk, heart failure, or chronic kidney disease, it recommends either a SGLT2 inhibitor or GLP-1 receptor agonist as first line with the addition of the other class if HbA1c is above target. In this way, it is more like the ESC guideline than previous ADA/EASD consensus statements, but rather strangely it does not give a clear positioning for metformin, and prior knowledge of the 2018 and 2019 consensus report is required to integrate the new consensus report into clinical practice. Previous reports have included thoughts about the need to minimize hypoglycemia, compelling needs to avoid weight gain or promote weight loss, or cost issues,^{11,12} and the new report focuses on the goal of achievement and maintenance of glycemic and weight management goals.¹³

What Next for the EDS?

The methodology employed by the EDS in the production of the 2020 publication did not include a systematic review, appraisal and scoring, and was an expert panel with discussion based on previous guidelines and consensus statements, so it should properly be termed a consensus report. For updating the next iteration, EDS could again use the faster consensus reporting approach, or the lengthier formal guideline approach. A compromise would be to produce the first update as a consensus report while putting in place the learning and infrastructure required for the formal guideline process, so that this could be used for the following update. Short-term changes could include the addition of other nonmedical healthcare workers and people with diabetes to the group producing the consensus report and avoiding funding from a single pharmaceutical company. The current report contains four figures on pharmacotherapy for patients with diabetes, and these could be revised into a single user-friendly algorithm aimed at nonspecialists and family doctors. To address the specific needs in Gulf states, information

could be incorporated on the use of antidiabetic drugs during Ramadan from the excellent 2021 guideline that was jointly produced by the IDF and the Diabetes & Ramadan International Alliance.¹⁴

Authors Contribution

This viewpoint was written by Miles Fisher who approved the final version for publication.

Compliance with Ethical Principles

Ethical approval is not required.

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Nil.

Conflict of Interest

Professor Fisher has been a member of ESC and SIGN (Scottish Intercollegiate Guidelines Network) guidelines committees and a reviewer for ESC, SIGN, and NICE guidelines.

References

- 1 Alawadi F, Abusnana S, Afandi B, et al. Emirates Diabetes Society Consensus Guidelines for the management of type 2 diabetes – 2020. *Dubai Diabetes Endocrinol J* 2020;26:1–20
- 2 Cosentino F, Grant PJ, Aboyans V, et al; ESC Scientific Document Group. 2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD. *Eur Heart J* 2020;41(02):255–323
- 3 American Diabetes Association Standards of medical care in diabetes - 2020. Pharmacological approaches to glycemic treatment. *Diabetes Care* 2020; 43:S98–S110.
- 4 SIGN 50: a guideline developer's handbook. Accessed January 6, 2023 at: <https://www.sign.ac.uk/what-we-do/methodology/sign-50-a-guideline-developers-handbook/>
- 5 Fisher M, Drummond R. Guidelines on antidiabetic drugs. In: Fisher M, McKay GA, Llano A, eds. *Diabetes Drug Notes*. Hoboken, NJ: Wiley Blackwell; 2022:294–321
- 6 IDF Clinical practice recommendations for managing type 2 diabetes in primary care. International Diabetes federation – 2017. Accessed January 6, 2023 at: <https://www.idf.org/e-library/guidelines/128-idf-clinical-practice-recommendations-for-managing-type-2-diabetes-in-primary-care.html>
- 7 European Society of Cardiology Guidelines publications schedule. Accessed January 6, 2023 at: <https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/ESC-Guidelines-Publication-Schedule>
- 8 NICE Type 2 diabetes in adults: management. NICE Guideline [NG28]. Published: 02 Dec 2015. Accessed January 6, 2023 at: <https://www.nice.org.uk/guidance/ng28>
- 9 NICE Type 2 diabetes in adults: management (medicines update). Accessed January 6, 2023 at: <https://www.nice.org.uk/guidance/indevelopment/gid-ng10336>
- 10 American Diabetes Association Standards of medical care in diabetes - 2023. Pharmacological approaches to glycemic treatment. *Diabetes Care* 2023;46:S140–S157
- 11 Davies MJ, D'Alessio DA, Fradkin J, et al. Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia* 2018;61(12):2461–2498
- 12 Buse JB, Wexler DJ, Tsapas A, et al. 2019 update to: Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia* 2020;63(02):221–228
- 13 Davies MJ, Aroda VR, Collins BS, et al. 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). *Diabetologia* 2022;65(12):1925–1966
- 14 IDF-DAR practical guidelines 2021. *Diabetes and Ramadan. Practical guidelines 2021*. Accessed January 6, 2023 at: <https://www.idf.org/e-library/guidelines/165-idf-dar-practical-guidelines-2021.html>