

Early onset type 2 diabetes

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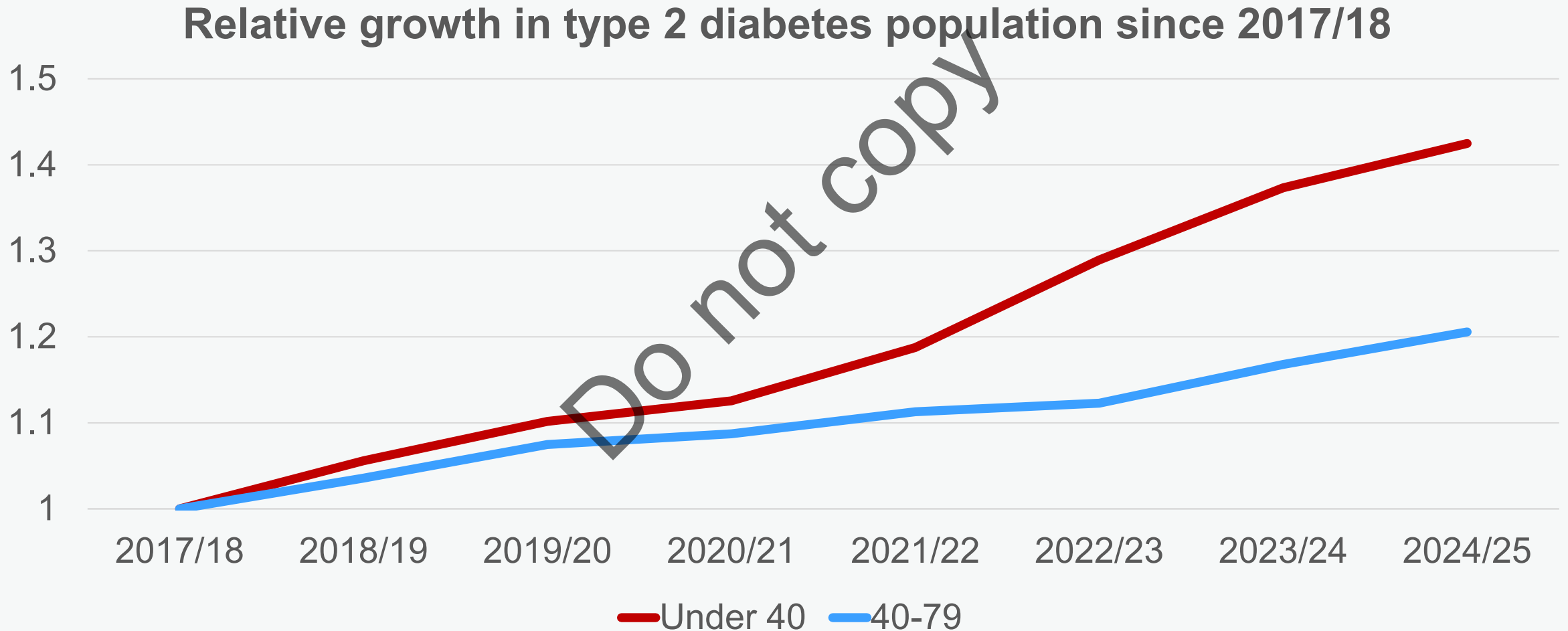
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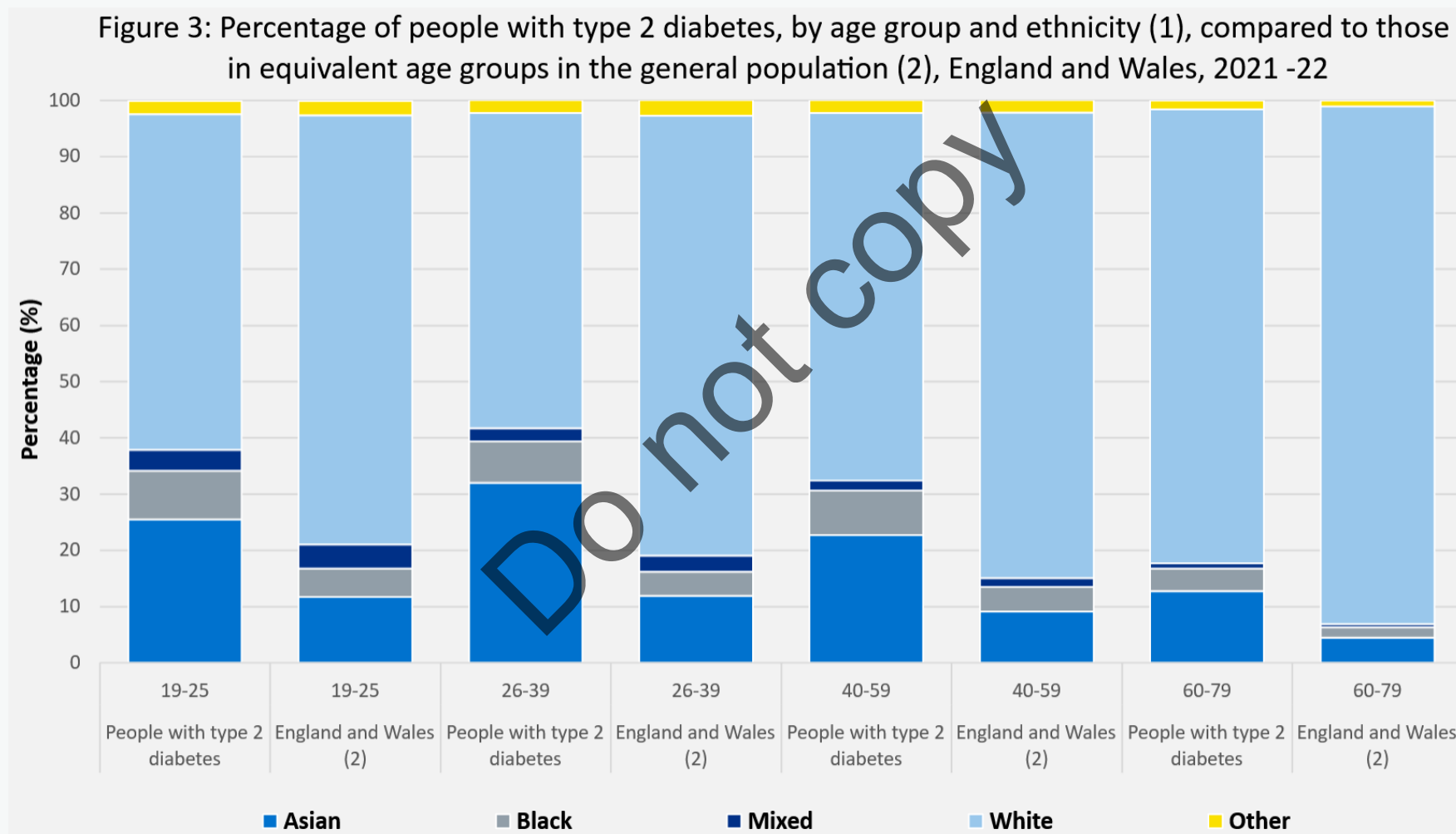
What we will cover

- The changing landscape of type 2 diabetes
- How type 2 diabetes in younger people differs from older onset
- A practical approach to managing early onset type 2 diabetes

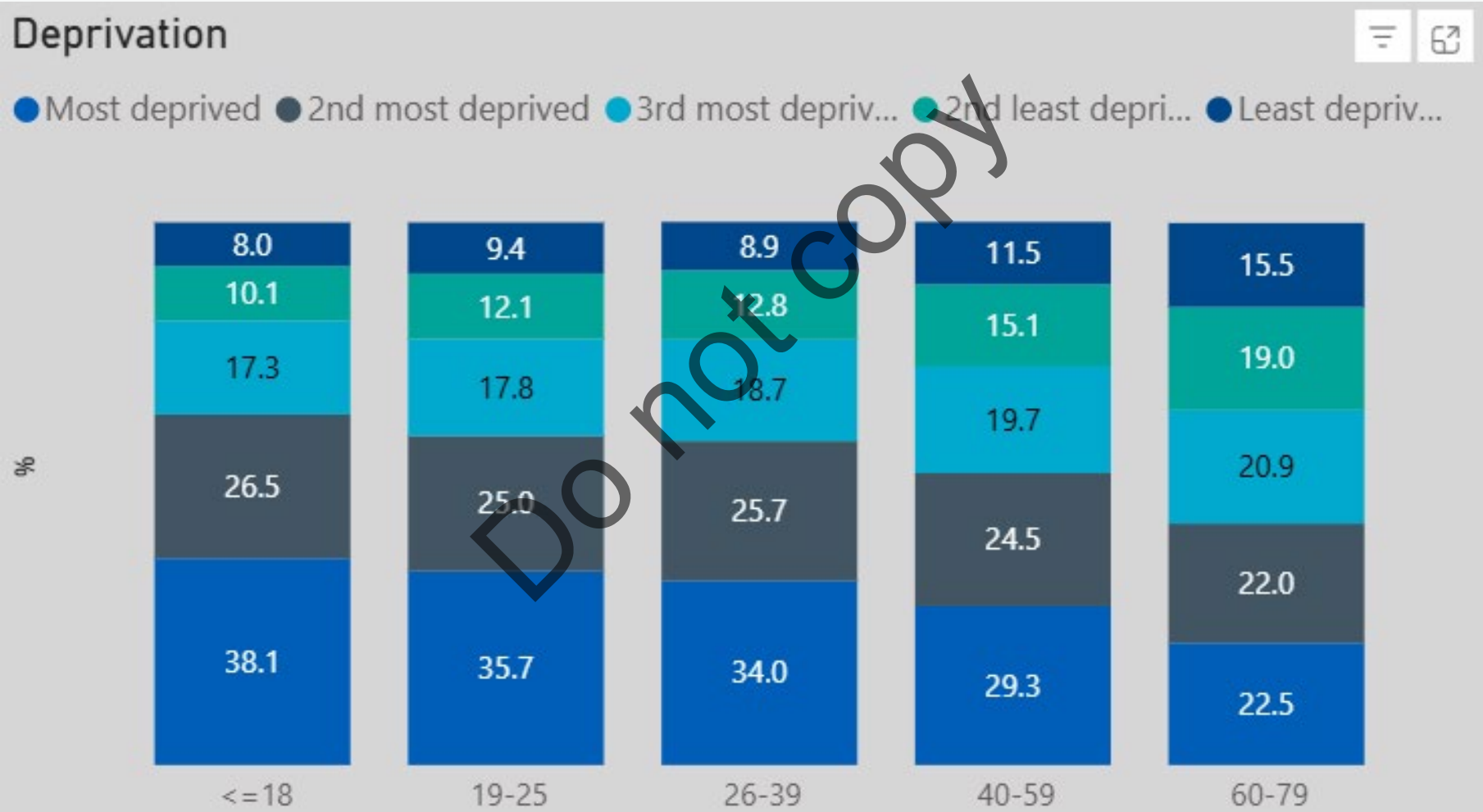
Growth over time in type 2 diabetes



Overrepresented in people of minority ethnicity



And in people living in the most deprived areas



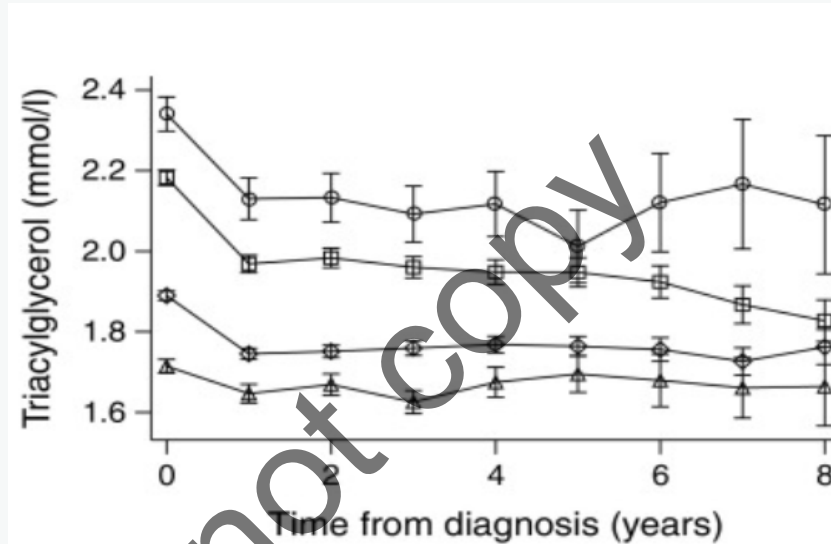
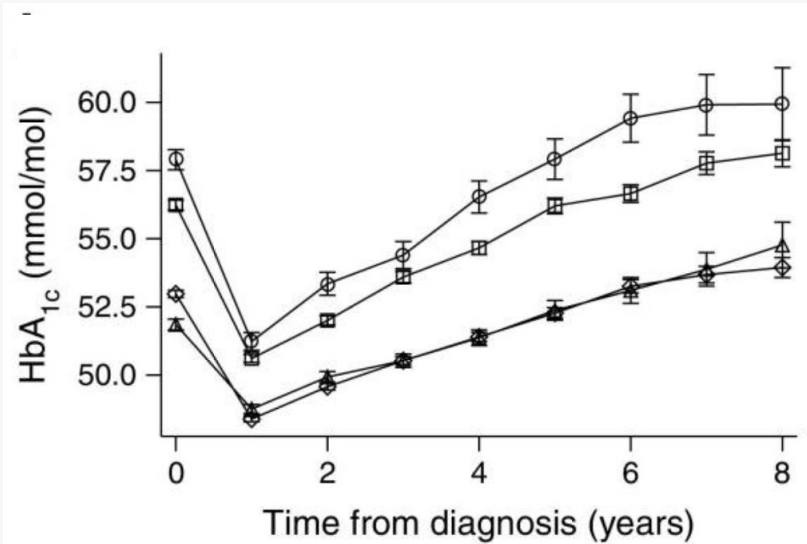


Why does it matter?

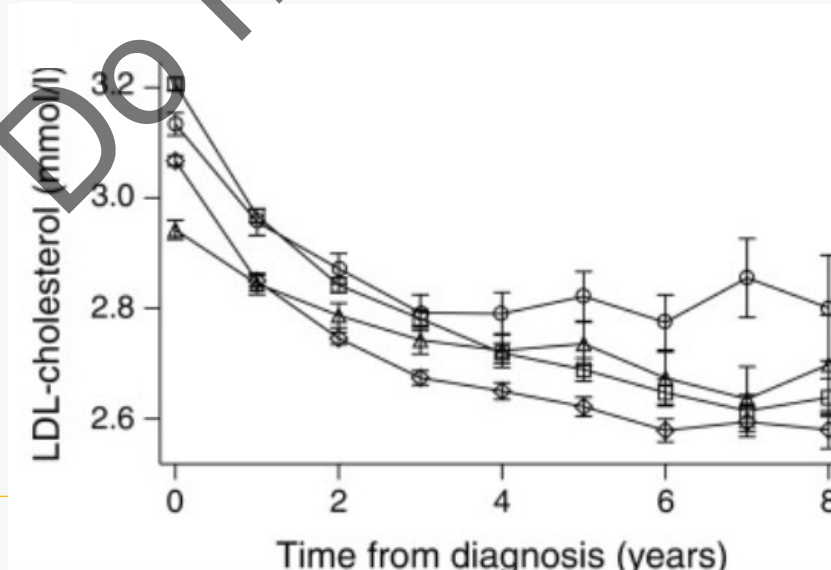
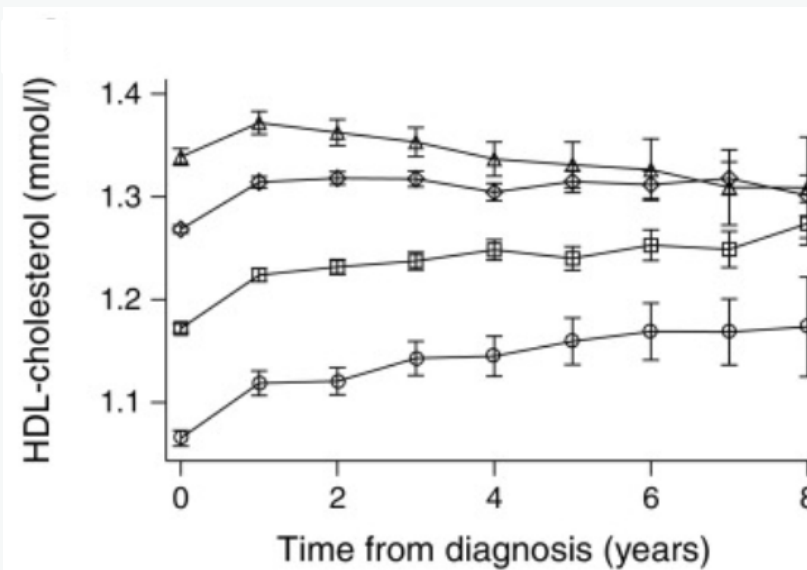
Compared to older-onset, development of type 2 diabetes earlier in life is associated with...

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Poorer cardiometabolic parameters and glycaemic progression

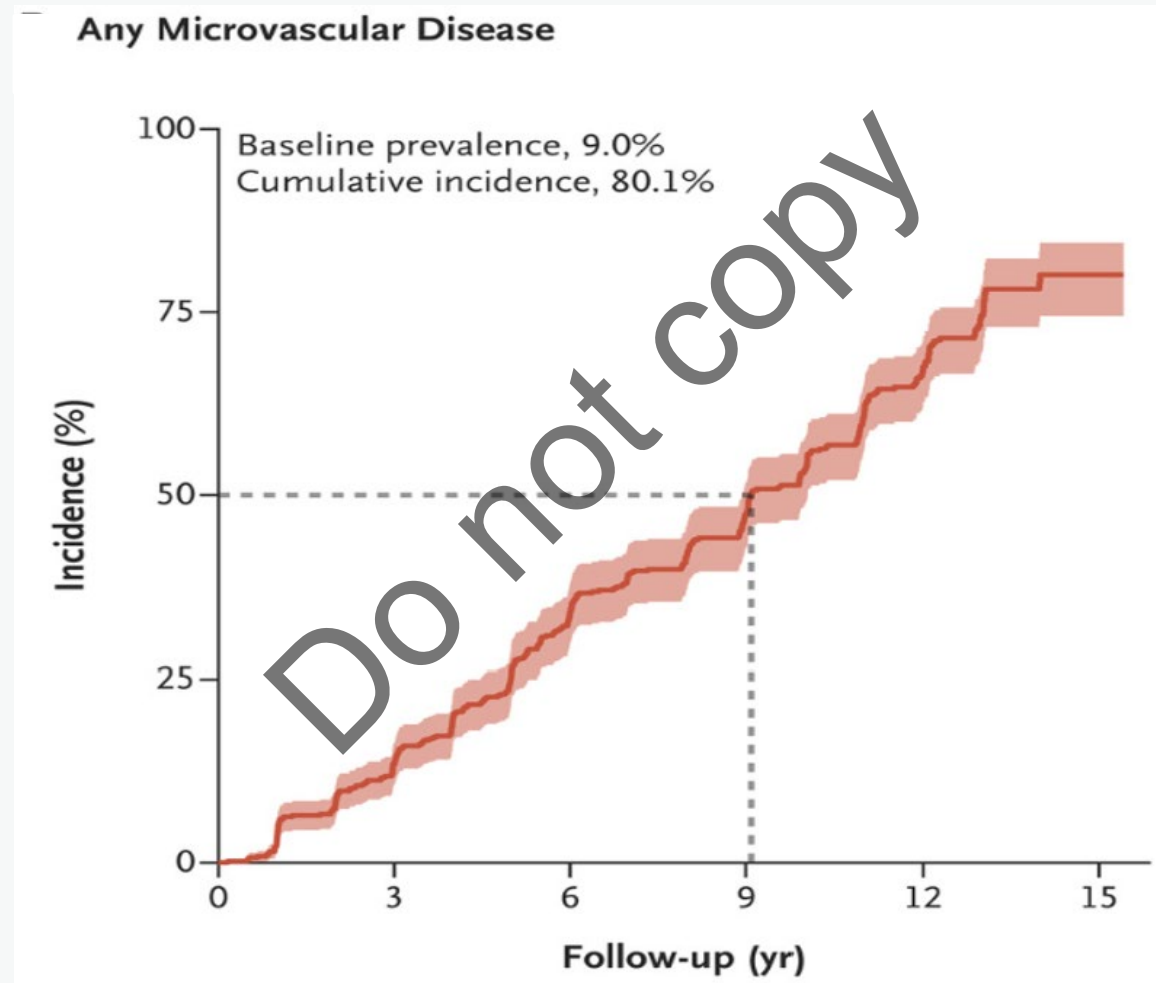


White circles, 18-44 years old; plus sign (+), 45-59 years old; crosses (x), 60-74 years old; white triangles, ≥75 years old



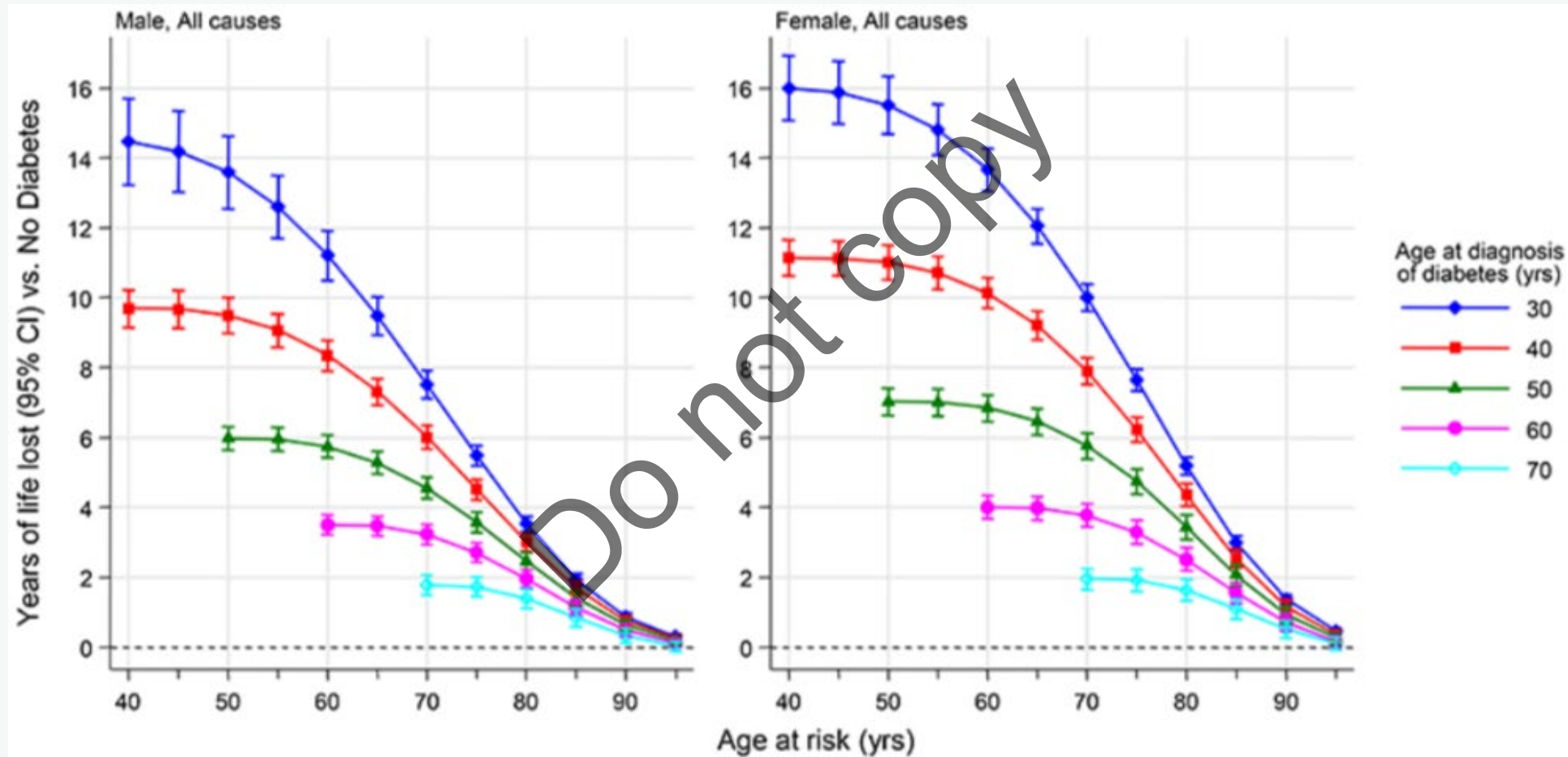
Steinarsson, A.O., Rawshani, A., Gudbjörnsdottir, S., Franzén, S., Svensson, A.M. and Sattar, N., 2018. Short-term progression of cardiometabolic risk factors in relation to age at type 2 diabetes diagnosis: a longitudinal observational study of 100,606 individuals from the Swedish National Diabetes Register. *Diabetologia*, 61, pp.599-606.

Earlier development of diabetes complications



TODAY Study Group, 2021. Long-term complications in youth-onset type 2 diabetes. *New England Journal of Medicine*, 385(5), pp.416-426.

Greater years of life lost



Emerging Risk Factors Collaboration. Life expectancy associated with different ages at diagnosis of type 2 diabetes in high-income countries: 23 million person-years of observation. *Lancet Diabetes Endocrinol.* 2023 Oct;11(10):731-742. doi: 10.1016/S2213-8587(23)00223-1. Epub 2023 Sep 11. PMID: 37708900; PMCID: PMC7615299.

And adverse implications for pregnancy



The increasing prevalence of pregnancies complicated by early-onset type 2 diabetes continues.

During 2024, there were 3,520 (60.2%) recorded pregnancies in women with type 2 diabetes (46.9% in 2014), and 2,240 (38.3%) pregnancies in women with type 1 diabetes (51.5% in 2014).



Pregnancy preparation has improved in type 1 diabetes without improvement in type 2 diabetes.

Pregnancy preparation has improved in type 1 diabetes (12.7% in 2014-18 compared with 18.3% in 2024) without improvement in type 2 diabetes (12.0% in 2014-18 compared with 10.2% in 2024).



Rates of serious adverse pregnancy outcomes are higher in pregnancies complicated by type 2 diabetes.

In 2024, rates of serious adverse pregnancy outcomes (major congenital anomaly & perinatal deaths) were higher in pregnancies complicated by type 2 diabetes (5.3%) compared with type 1 diabetes (4.7%).



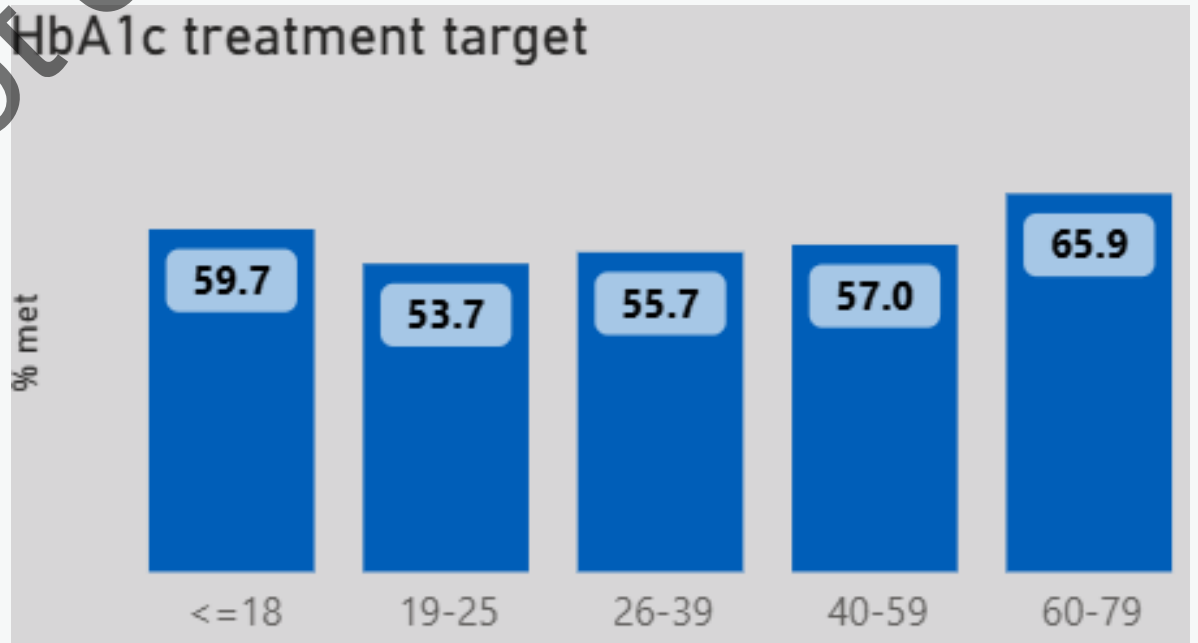
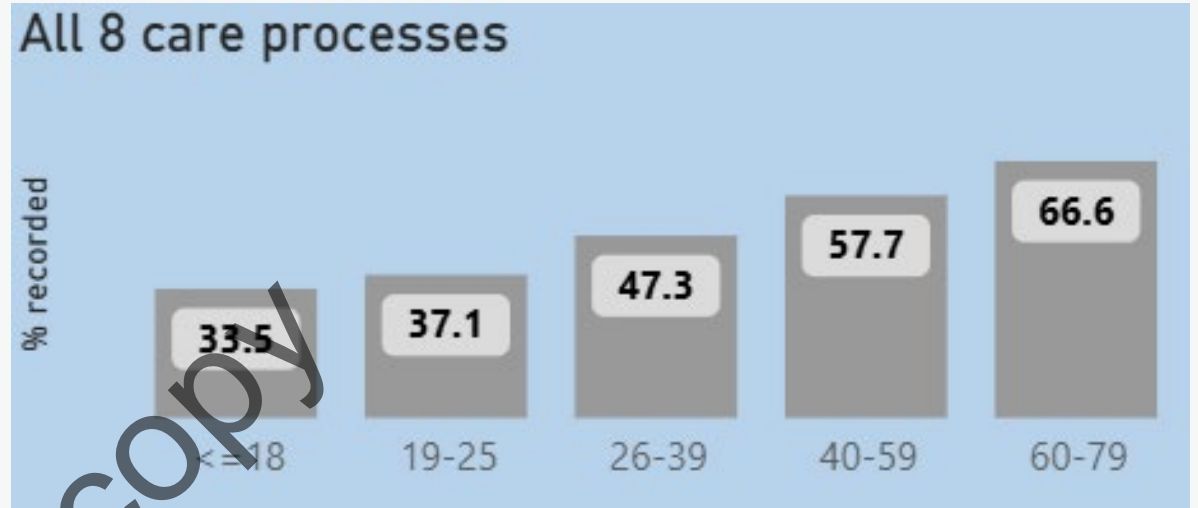
Maternal glucose levels are improving during pregnancy in women with type 1 diabetes without improvement in type 2 diabetes.

30.9% of women with type 1 diabetes achieving late pregnancy HbA1c target of <43mmol/mol in 2022-2024 compared to 23.2% (2014-2018).
51.7% of women with type 2 diabetes achieving late pregnancy HbA1c target of <43mmol/mol in 2022-2024 compared to 54.7% (2014-2018).

But despite this...

Adults with early onset type 2 diabetes are:

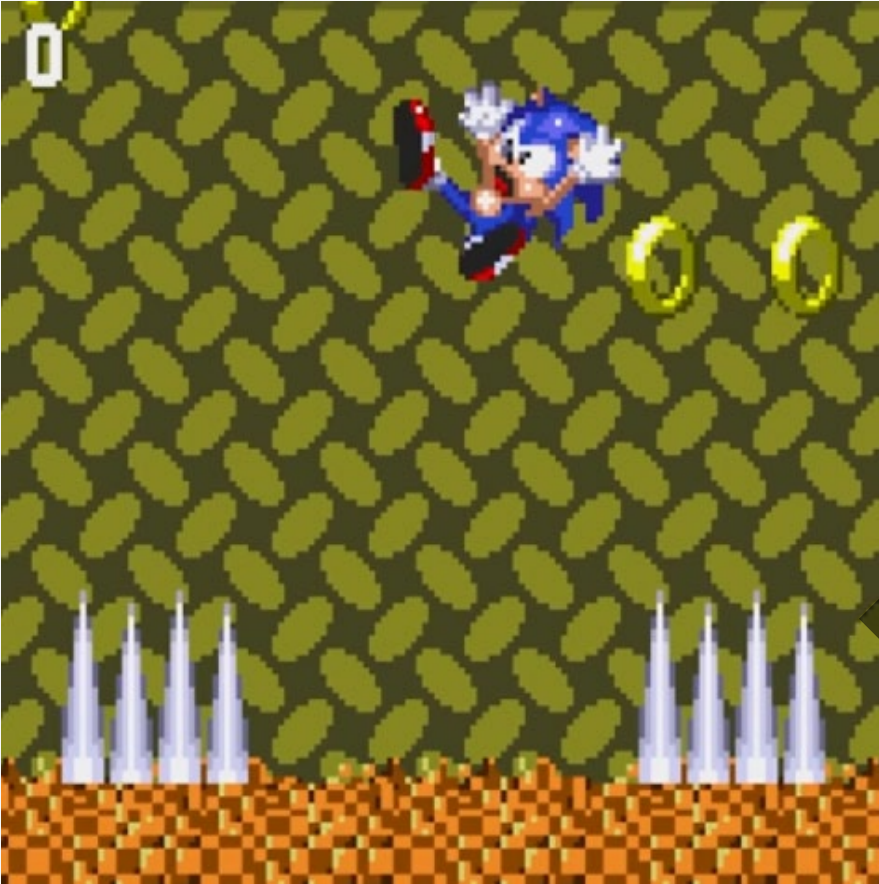
- Less likely to receive all 8 care processes than older ages
- Less likely to have glycaemia 'to target' than older ages
- Less likely to have adequate pregnancy preparation than those with type 1 diabetes





How to approach management and what does NG28 say?

First, a note of caution... beware the traps!



Don't assume:

- The presentation is definitely type 2 diabetes
- All medicines in NG28 are currently appropriate
- The main issue from their point of view is diabetes

A practical framework for EOT2D reviews in adults

Consideration of potential misclassification of diabetes type

Contraception and planning for possibility of pregnancy

Psychological wellbeing and social support

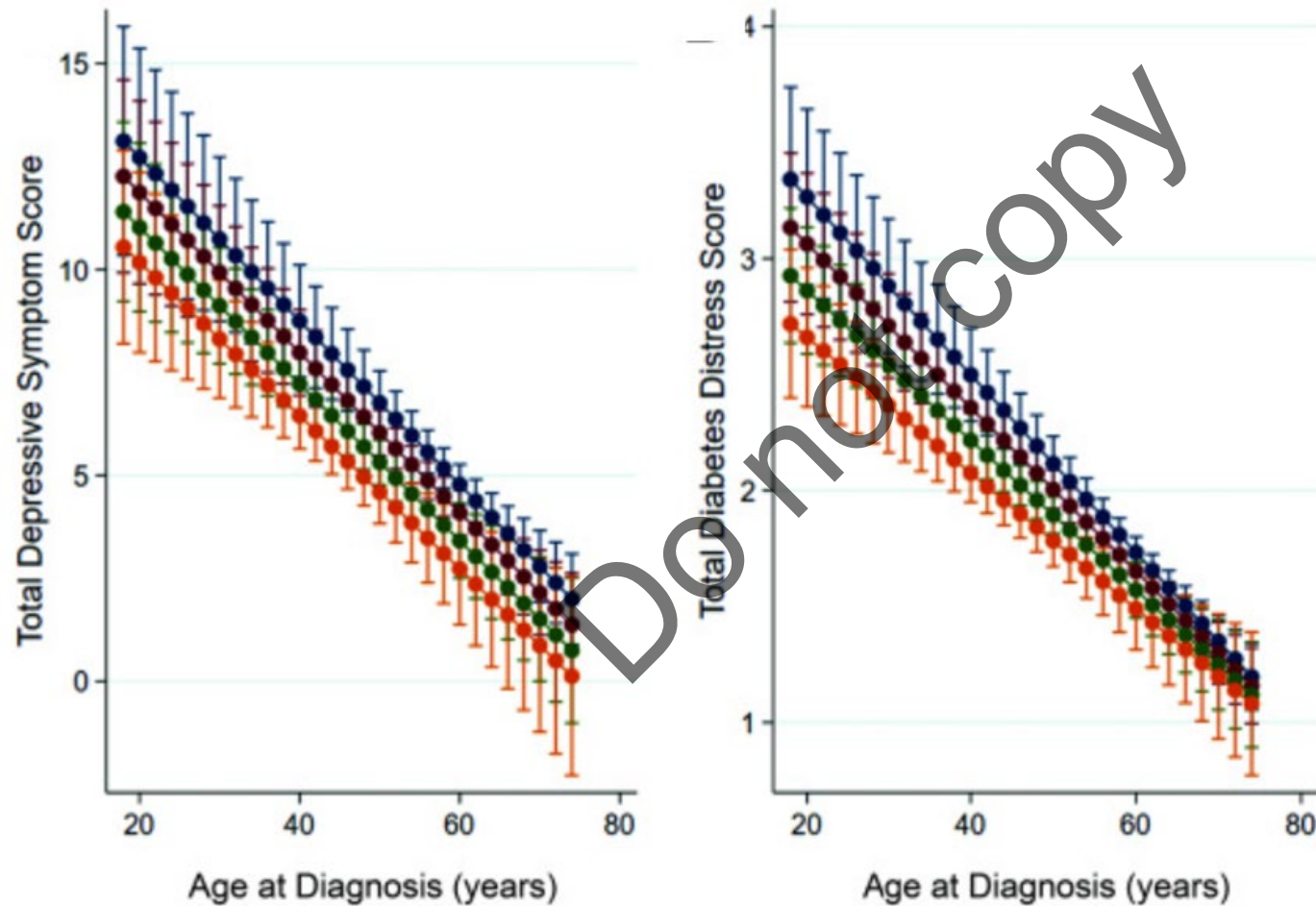
Optimisation of glycaemia, cardiovascular risk and weight

Case example – Mark



- Age 35
- Works on a building site
- Has a young family
- Diagnosed with T2D a few years ago
- BMI 32
- HbA1c 68
- BP 138/82
- No other known medical problems
- Not attended retinal screening
- Metformin 1g bd and gliclazide 80mg bd
- **How might you approach this context?**

Psychological wellbeing



Barker, M.M., Davies, M.J., Zaccardi, F., Brady, E.M., Hall, A.P., Henson, J.J., Khunti, K., Lake, A., Redman, E.L., Rowlands, A.V. and Speight, J., 2023. Age at Diagnosis of Type 2 Diabetes and Depressive Symptoms, Diabetes-Specific Distress, and Self-Compassion. *Diabetes Care*, 46(3), pp.579-586.

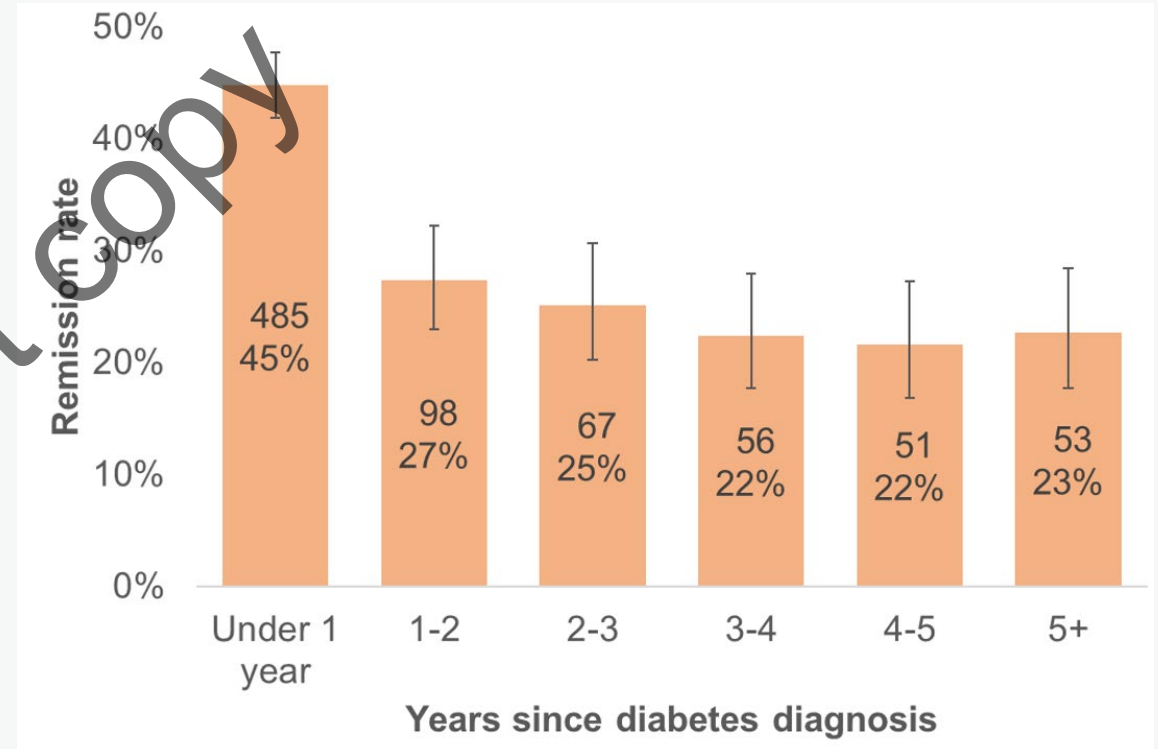
Weight, cardiovascular risk and glycaemia



Taken from National Diabetes Audit: Young Type 2 Diabetes dashboard – 2024 data

Think about non-pharmacological support...

- Path to Remission Programme
- Specialist weight management
- Structured education
- Group clinics



Remission rates at 1 year for people on the NHS Type 2 Diabetes Path to Remission Programme, split by time from diagnosis to referral

NICE NG28 (2026) – recommendations for EOT2D

1.16 People with early onset type 2 diabetes

1.16.1 For adults with [early onset type 2 diabetes](#), offer modified-release metformin and an SGLT-2 inhibitor, and consider adding either:

- a GLP-1 receptor agonist for its cardiovascular, renal and glycaemic benefits or
- tirzepatide for its glycaemic benefits. [2026]

1.16.2 If metformin is contraindicated or not tolerated, offer an SGLT-2 inhibitor and consider adding either:

- a GLP-1 receptor agonist for its cardiovascular, renal and glycaemic benefits or
- tirzepatide for its glycaemic benefits. [2026]

Weight, cardiovascular risk and glycaemia

- NG28 has shifted away from a glucocentric approach, now considering comorbidities and impact of medicines on weight and cardiorenal risk
- Set individualised targets together
- Intensive glycaemic control ($\text{HbA1c} < 48$) is often appropriate given lifetime risk
- Avoid delay in escalation... Recheck HbA1c every 3-6m until stable and controlled
- Also manage weight, BP and consider lipid lowering therapy

But their QRISK is low?

Statin treatment for people with and without type 2 diabetes

- 1.6.7 Offer atorvastatin 20 mg for the primary prevention of CVD to people who have a 10-year QRISK3 score of 10% or more. **[May 2023]**
- 1.6.8 Do not rule out treatment with atorvastatin 20 mg for the primary prevention of CVD just because the person's 10-year QRISK3 score is less than 10% if they have an informed preference for taking a statin or there is concern that risk may be underestimated. **[May 2023]**

NICE NG238, Cardiovascular disease: risk assessment and reduction, including lipid modification

Case example – Grace



- Age 38
- Office manager
- Recently diagnosed with T2D
- BMI 30
- HbA1c 50
- BP 125/77
- Not on any current medication
- **How might you approach this context?**

Pregnancy planning / contraception

- Around half of pregnancies in people with diabetes are unplanned
- Are they sexually active and, if so, are they using contraception?
- If there is a chance of becoming pregnant, need to consider potential for harm
 - Prescribe folic acid 5mg daily
 - Optimise HbA1c – if trying for pregnancy, then ideally target < 43 mmol/mol
 - Only metformin and insulin considered safe in pregnancy
 - Avoid lipid lowering therapy and only use suitable BP-lowering medicines
- Offer referral to pre-conception clinic

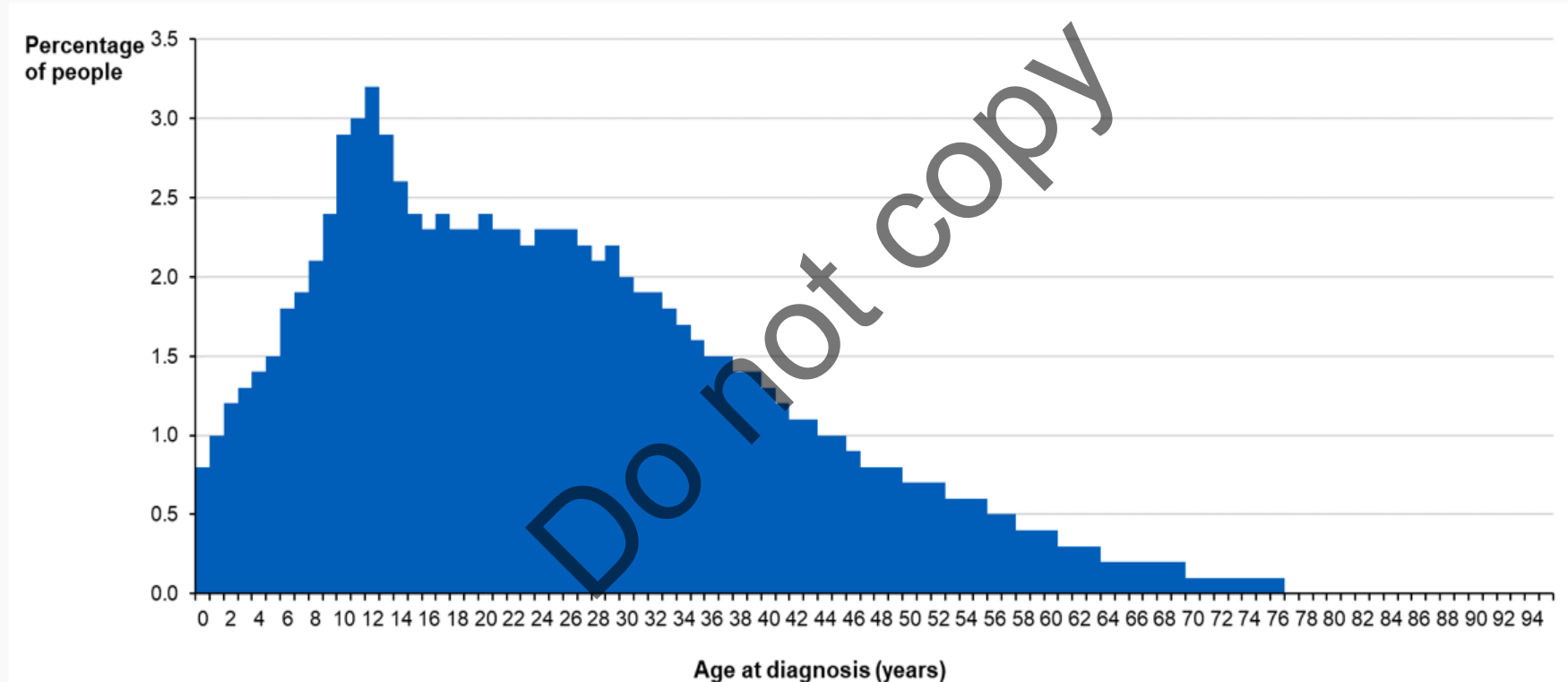
Case example – Abdul



- Age 32
- Taxi driver
- Polyuria, polydipsia, weight loss
- BMI 28
- Not known to have diabetes – HbA1c last year was 39 mmol/mol
- Mother has type 2 diabetes
- History of hypothyroidism
- **How might you approach this context?**

Could this be a presentation of type 1 diabetes?

People with type 1 diabetes, by age of diagnosis*, England and Wales, 2019-20



Presentations of type 1 diabetes climb steeply through childhood and peak in adolescence. They continue to present at a steady high rate to around 30 years old where they decline gradually with low rates presenting from the mid-fifties. Approximately two-thirds are diagnosed by aged 30 years old and one third thereafter.

* Zero years age at diagnosis includes people whose date of birth is the same as their date of diagnosis. In some cases this may be a data quality issue.

For existing diagnoses, consider misclassification

- **Ask yourself – does this fit with type 2 diabetes?**
- Take into account their:
 - BMI (at time of diagnosis)
 - Family history
 - Features of metabolic syndrome
 - Prior HbA1cs
 - Age
 - Ethnicity
- MODY has strong family history of early diabetes. Refer to diabetes specialist team
- If type 1 diabetes is strongly suspected, discuss with specialist team same-day



Key points

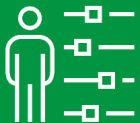
- Type 2 diabetes is growing fastest in younger ages (EOT2D)
- Compared to older onset, EOT2D tends to be a more aggressive phenotype
- Pregnancies in women with T2D have worse outcomes than in women with T1D
- Despite the high risks, data show objectively worse measures of care
- Consider (mis)classification, psychosocial need, pregnancy
- Major shift in approach to medical management in recent NG28 update
- If appropriate, offer metformin MR and SGLT2i and consider GLP-1 RA / tirzepatide
- May benefit from more intensive glycaemic targets
- Also manage other cardiometabolic risks including BP, lipids and weight

Educational resource / CPD

www.eot2deden.com



Modules cover a range of key topics, including:



Diagnosis and
initial management



Pre-conception
and pregnancy
care



Cardio-renal-
metabolic
management



Psychological
wellbeing and
support for
younger patients



Each module takes
approximately 30-
40 minutes to
complete



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Many thanks for listening!