What and why

- **Multiple long-term conditions (MLTCs)** is a state defined as the presence of two or more long-term conditions, "where no one condition is considered as the index".[1] Combinations of physical, infectious or mental health conditions are all possible.
- By age 50, one-third of people with diabetes have three or more MLTCs, live with them for over 20 years, and die 11 years earlier than average.[2]
- The prevalence of MLTCs has been driven by increasing life expectancy and increases in etiological drivers such as obesity.
- Potential implications of living with MLTCs include:
  - Negative health outcomes, including increased mortality.
  - Reduced quality of life.
  - Fragmented care and/or duplication of care.
  - Polypharmacy.
  - Challenges with adherence to treatment.[3]
  - Increased health resource needs.
  - Disengagement due to emotional burden.
- This article focuses on the delivery of holistic care to adults living with type 2 diabetes and one or more additional long-term condition, with a particular emphasis on renal, cardiovascular, hepatic and emotional/mental health.
- Updated in 2026 to take into account new NICE guidance on type 2 diabetes management.[5]

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Citation: Milne N, Kanumilli N (2026) How to undertake a multiple long-term conditions review. *Diabetes & Primary Care* **28**: [Early view publication]

Advantages of MLTCs clinics

- Joined-up, holistic care.
  - Reducing the number of clinic visits for the person living with MLTCs.
  - Reduced duplication of care.
  - Less potential for conflicting advice.
- Potential for enhanced engagement with the person with MLTCs.
- Continuity of care.
- Proactive opportunity for advice and intervention to reduce risk.
- Right person is seen, in the right place, by the right healthcare professional.
- Appropriate use of NHS services/resources, with related cost savings.
- Enhanced satisfaction for both the person and their healthcare professional.
- Reduced carbon footprint with less travel.

Where to start?

- Prioritise based on practice/PCN population needs. For example, perhaps start with persons with specific MLTCs, such as:
  - Type 2 diabetes and established atherosclerotic cardiovascular disease (ASCVD).
  - Type 2 diabetes and chronic kidney disease (CKD).
  - Type 2 diabetes and heart failure.
  - Type 2 diabetes and metabolic dysfunction-associated steatotic liver disease (MASLD).

  Simple practice IT searches or commercial searches (with IT governance consent) can facilitate this.
- Or start as routine practice in your next clinic.

Ahead of the MLTCs review

Ensure the person with MLTCs has had all their related healthcare processes prior to the review:

- ☐ Blood pressure measurement.
- ☐ Pulse measurement and assessment (to exclude/review any atrial fibrillation).
- ☐ Full lipid profile.
- ☐ HbA_{1c}.
- ☐ Urine albumin:creatinine ratio measurement.
- ☐ eGFR and U+Es measurement.
- ☐ Liver function tests (LFTs).
- ☐ Weight, BMI and/or waist:height ratio measurement.
- ☐ Frailty assessment.
- ☐ Review of emotional health and wellbeing needs.
- ☐ CVD risk assessment where appropriate (not required in established ASCVD or persons with CKD, as CKD is considered high-risk for CVD).
- ☐ Foot examination.
- ☐ Up-to-date retinal screening.
- ☐ Support with any sexual health concerns, both female[4] and male.
- ☐ Promotion of the need for regular periodontal review.
- ☐ Offered immunisations as per national schedule.

Other blood tests, such as vitamin B12 levels, FBC or TFTs, may be required depending on individual needs/long-term conditions.

Health inequalities

Consider health inequalities and the possible need for reasonable adjustments.

- People with the greatest need are often those who we do not reach, such as persons:
  - Living in the most deprived communities.
  - With younger-onset type 2 diabetes.
  - From certain ethnic groups.
  - Living with serious mental health conditions.
  - Living with a learning disability.
- What is your hardly reached population?
- How might engagement be enhanced, such as extended-hours working or one-stop clinics within community settings?

NICE diabetes guidance: Universal pharmacotherapy for cardiorenal protection[5]

- ☐ **Offer all people** living with type 2 diabetes modified-release metformin* titrated to maximum tolerated dose and an SGLT2 inhibitor as foundational therapy, unless contraindicated.
- ☐ For people living with established ASCVD, additionally offer subcutaneous semaglutide up to 1 mg weekly unless contraindicated.

* If already taking and tolerating standard-release metformin, there is no need to switch formulation.

Healthy living advice and signposting *(important at every contact)*

- ☐ Is the person suitable for referral to the NHS Type 2 Diabetes Path to Remission Programme or local equivalent?
- ☐ Appropriate dietary advice for a healthy weight (review by dietitian if available).
- ☐ Advise on appropriate physical activity (refer to locally commissioned services where available).
- ☐ Smoking cessation advice if appropriate.
- ☐ Advise on optimising sleeping patterns.
- ☐ Ask about emotional wellbeing.
- ☐ Review of any recreational drug use/substance misuse.
- ☐ Look to engagement with diabetes education/self-management and peer support programmes (either locally or nationally commissioned) – for example, https://www.healthyliving.nhs.uk or https://www.nhs.uk/better-health
- ☐ Use of resources for people living with diabetes, to include the Diabetes UK Learning Zone.

HbA_{1c}

- ☐ Set an appropriate individualised target HbA_{1c} level based on duration of diabetes and any moderate or severe frailty.
- ☐ Review for the need to intensify glucose-lowering medications for optimisation of glycaemic levels, or for de-escalation of therapies as appropriate.
- ☐ If HbA_{1c} is particularly high, see *How to manage high HbA_{1c} in people with type 2 diabetes*.

Blood pressure optimisation

Clinic targets[8]

- Without CKD:
  - <80 years: <140/90 mmHg.
  - ≥80 years: <150/90 mmHg.
- For persons with diabetes and CKD:
  - uACR <70 mg/mmol: 120–139/<90 mmHg.
  - uACR ≥70 mg/mmol: 120–129/<80 mmHg.

Note: Home blood pressure reading targets are 5 mmHg lower on both systolic and diastolic measurements.

First-line treatment

- ACE inhibitor or ARB (unless preparing for pregnancy).

For more information, see *How to diagnose and treat hypertension in adults with type 2 diabetes*.

Emotional/mental health

- ☐ **Ask** for any concerns: *"What's one thing about your diabetes that's really getting to you at the moment?"*.[7]
- ☐ **Listen**.
- ☐ Signpost to any locally commissioned services as appropriate.
- ☐ Review any medication prescribed for mental health.
- ☐ Arrange further review as required.

For more information, see *At a glance factsheet: Mental health and diabetes*.

CVD risk reduction[9]

- ☐ Calculate QRISK® score.
  - For persons under the age of 40 years, consider calculating lifetime risk.
- ☐ If QRISK® is >10%, offer lifestyle advice and lipid-lowering therapy for **primary prevention** of CVD as follows:
  - Start with atorvastatin 20 mg.
  - Aim for a >40% reduction in non-HDL cholesterol.
  - If targets not met, optimise with titration of statin dose and/or look to additional lipid-lowering therapies.

Established ASCVD

ASCVD refers to coronary heart disease (CHD), cerebrovascular disease or peripheral arterial disease (PAD).

- ☐ Optimise blood pressure, lipids, weight and HbA_{1c}.
- ☐ Guardian medications **for secondary prevention of CVD**:
  - Atorvastatin 80 mg. **Aim for:**
    - LDL cholesterol ≤2.0 mmol/L, or
    - Non-HDL cholesterol ≤2.6 mmol/L.
    - If targets not met, optimise with addition of other lipid-lowering therapies.
  - Antiplatelet therapy.
  - ACE inhibitor or ARB titrated to maximum tolerated dose.
  - Beta-blocker.
- ☐ Offer metformin M/R, SGLT2 inhibitor with evidence of benefit in ASCVD, and subcutaneous semaglutide up to 1 mg for cardiorenal protection.[5]
- ☐ For when to refer to secondary care, see NICE NG238.[9]

For further information on the management of cerebrovascular disease in type 2 diabetes, see *At a glance factsheet: Stroke and the person with diabetes*.

Overweight and obesity[6]

- ☐ **Ask** for permission to discuss.
- ☐ **Listen** to any concerns/challenges and provide or signpost to support.
- ☐ Discuss implications of excess weight/obesity on long-term health conditions.
- ☐ Optimise lifestyle interventions for a healthy weight, to include support with psychological health.
- ☐ Consider suitability for any locally or nationally commissioned weight loss services.
- ☐ Consider suitability for weight loss medications.
- ☐ If further glycaemic optimisation is required following at least 3 months of metformin and SGLT2 inhibitor therapy, offer a GLP-1 RA or tirzepatide.[5]
- ☐ Consider suitability for surgical weight loss interventions.

Chronic kidney disease[12]

- Diagnosed if urinary albumin:creatinine ratio (uACR) is >3.0 mg/mmol **and/or** eGFR is <60 mL/min/1.73 m^2.
- A positive uACR is two measurements of >3.0 mg/mmol out of three samples at least 1 month apart (repeat sample not needed if the initial ACR is 70 mg/mmol or more).

Management*

- ☐ Optimise blood pressure and weight.
- ☐ CVD risk is high, so offer and optimise lipid-lowering therapies.
- ☐ Optimise glycaemic levels to achieve individualised HbA_{1c} target.
- ☐ Initiate ACE inhibitor or ARB, and titrate to maximum tolerated dose.
- ☐ **If eGFR >30 mL/min/1.73 m^2:** Offer metformin M/R and SGLT2 inhibitor (with appropriate renal dose of metformin if eGFR <45).[5]
- ☐ **If eGFR 20–30 mL/min/1.73 m^2:** Stop metformin. Offer appropriate dose of DPP-4 inhibitor and dapagliflozin or empagliflozin.[5]
- ☐ For persons with eGFR 25–59 mL/min/1.73 m^2 and a positive uACR, offer finerenone based on NICE TA877.[13]

* Although the FLOW trial[14] identified clinically important benefits for renal protection and glycaemia, NICE advises that subcutaneous semaglutide was not cost-effective for this population in its economic model; hence, GLP-1 RAs or tirzepatide are not recommended.[5] However, they may be appropriate if the person with CKD is living with obesity and/or has early-onset type 2 diabetes.

Breathlessness

- ☐ Assess for breathlessness.[10]
- ☐ Is it a new symptom or has it worsened?
- ☐ Has exercise tolerance deteriorated – ask simple questions such as "are you finding it more difficult to walk upstairs recently?"
- ☐ Smoking status.
- ☐ Determine whether breathlessness has a respiratory cause or is due to undiagnosed **heart failure**.
- ☐ Test BNP or NT-proBNP based on local availability.
- ☐ Refer for an echo based on BNP levels as per NICE guidance.[11]
- ☐ Refer for spirometry if BNP is negative or there is suspicion of COPD/emphysema.

Heart failure[11]

- ☐ Optimise blood pressure, lipids, weight and HbA_{1c}.
- ☐ Manage any atrial fibrillation.
- ☐ Has the person participated in a personalised, exercise-based cardiac rehabilitation programme?
- ☐ Aim for less than 6 g of salt per day.
- ☐ Review any symptoms, such as breathlessness, cough, tiredness, exercise intolerance and fluid retention.
- ☐ Guardian medications include:
  - ➤ Beta-blocker.
  - ➤ ACE inhibitor/ARB or an angiotensin receptor/neprilysin inhibitor (sacubitril/valsartan).
  - ➤ Mineralocorticoid receptor antagonist (e.g. spironolactone).
  - ➤ Diuretics may may be offered for fluid retention and congestive symptoms.
- ☐ Offer SGLT2 inhibitor with evidence of benefit in heart failure.
- ☐ Is the person under the review of the heart failure team?

Further options for the management of heart failure under specialist care include ivabradine, hydralazine and digoxin.

Metabolic dysfunction-associated steatotic liver disease (MASLD)

Previously termed non-alcoholic fatty liver disease (NAFLD), MASLD is defined as steatotic liver disease in the presence of one or more cardiometabolic risk factor(s) and the absence of harmful alcohol intake. NICE Guidance for MASLD is currently in development.

- ☐ Check liver function tests specifically ALT/AST, along with FBC to calculate fibrosis score (FIB-4 index).[15]
- ☐ Rule out alcohol-related liver disease and viral hepatitis.
- ☐ Check if the person has had a fibroscan, as this can help with categorising MASLD, ranging from fatty liver, through MASH/NASH to cirrhosis.
- ☐ The mainstay of current treatment is healthy living, weight optimisation and managing the associated long-term conditions such as type 2 diabetes.
- ☐ Seek specialist advice based on local guidelines.

Specific considerations in type 1 diabetes[16]

- ☐ Is the person under specialist care, thus allowing for timely and appropriate access to technology for type 1 diabetes?
- ☐ Has the person had the opportunity to undertake a course in type 1 diabetes education/self-empowerment?
- ☐ Has the person been supported in the effective use of continuous glucose monitoring?
- ☐ Ensure access to ketone monitoring and discuss sick day guidance.
- ☐ Look to optimise blood pressure and HbA_{1c}.
- ☐ Lipid management:[9]
  - Consider statin treatment for the primary prevention of CVD in all adults with type 1 diabetes.
  - Offer statin treatment for the primary prevention of CVD to adults with type 1 diabetes who:
    - are older than 40 years, or
    - have had diabetes for more than 10 years, or
    - have established nephropathy, or
    - have other CVD risk factors.

Specific considerations in people with early-onset type 2 diabetes (diagnosis before age 40 years)

- ☐ Ensure correct classification of diabetes.
- ☐ Look to individualise target HbA_{1c} to <48 mmol/mol.[17]
- ☐ Consider **lifetime** CVD risk.
- ☐ Consider the use of a GLP-1 RA or tirzepatide in addition to metformin and an SGLT2 inhibitor, unless contraindicated.[5]
- ☐ Preconception advice for women of childbearing potential:
  - Aim for HbA_{1c} <48 mmol/mol.
  - Metformin and/or insulin are the only glucose-lowering medications suitable for use in preconception/pregnancy. Stop all other glucose-lowering medications.
  - Statins, other lipid-lowering therapies and ACE inhibitors/ARBs should be stopped. Alternative therapies for hypertension include nifedipine and methyldopa.
  - Folic acid 5 mg for at least 3 months prior to conception and up to the 12th week of pregnancy.

For more information, see *How to conduct an extended review for people with early-onset type 2 diabetes*.

Specific considerations in people with frailty

- ☐ Individualise blood pressure and HbA_{1c} targets to avoid adverse effects such as postural drop and hypoglycaemia.
- ☐ Consider prognosis and individualise care based on shared decision-making.
- ☐ Add an SGLT2 inhibitor to metformin therapy only if the person is **not** at risk of adverse events (e.g. hypotension). If at risk, offer to add a DPP-4 inhibitor for any glucose optimisation.[5]
- ☐ Consider dietary intake, risk of sarcopenia, social circumstances and ability to take medication.
- ☐ Look to reduce any polypharmacy.

For more information, see *How to manage diabetes in later life*.

Although not covered in detail within this article, a multinational study has recently shown that mortality from dementia has increased markedly, independent of age in people living with diabetes.[18] For further information see How to approach and manage diabetes in people with dementia.

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