



What and why

- Average life expectancy for men and women with severe mental illness (SMI) is significantly shorter than for those without SMI¹.
- 75% of all deaths in people with SMI are caused by physical illness, with cardiovascular disease (CVD) being the most common cause.
- All major CVD risk factors are increased 2–3-fold in people with schizophrenia².
- Type 2 diabetes is common in people with SMI. It is likely to be a result of lifestyle, disease and treatment factors.
- In 2016–17, only 40.6% of people with type 2 diabetes and SMI received all their annual care processes³.
- There are increased levels of dyslipidaemia (raised total cholesterol and low-density lipoprotein and lower levels of high-density lipoprotein) with SMI⁴.
- Primary care has a key role to play in improving physical healthcare for people with SMI.

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Antipsychotic medications

- Antipsychotic medications are important to stabilise an individual's mental health and put them in a stronger position to address their physical health needs.
 - These medications may independently increase the risk of type 2 diabetes alongside other risk factors (e.g. smoking). People with SMI are twice as likely to smoke as the general population⁵.
 - A large meta-analysis found that the prevalence of type 2 diabetes in people with early untreated schizophrenia was 2.1%, compared to 12.8% in those taking antipsychotic medication⁶.
 - Antipsychotics are amongst the most obesogenic medications. In one study, 42% of participants with schizophrenia had a BMI >27 kg/m², compared to 27% of the general population⁷.
 - Weight gain of >7% from baseline has been seen in up to 72% of those taking second-generation antipsychotics (SGAs) and, to a lesser extent, with first-generation antipsychotics (FGAs)⁸.
 - Women may be at higher risk of antipsychotic-induced weight gain⁹.
 - Whilst most people taking antipsychotic medication will not develop type 2 diabetes, small differences in glucose measurements can be a risk marker for future CVD and mortality.
- A meta-analysis of head-to-head comparisons found olanzapine and clozapine produced statistically significantly greater increases in glucose levels from baseline to endpoint than amisulpride, aripiprazole, quetiapine, risperidone and ziprasidone (see *Table*)¹⁰.

Antipsychotic medications and likelihood of treatment-related glucose abnormalities¹⁰.

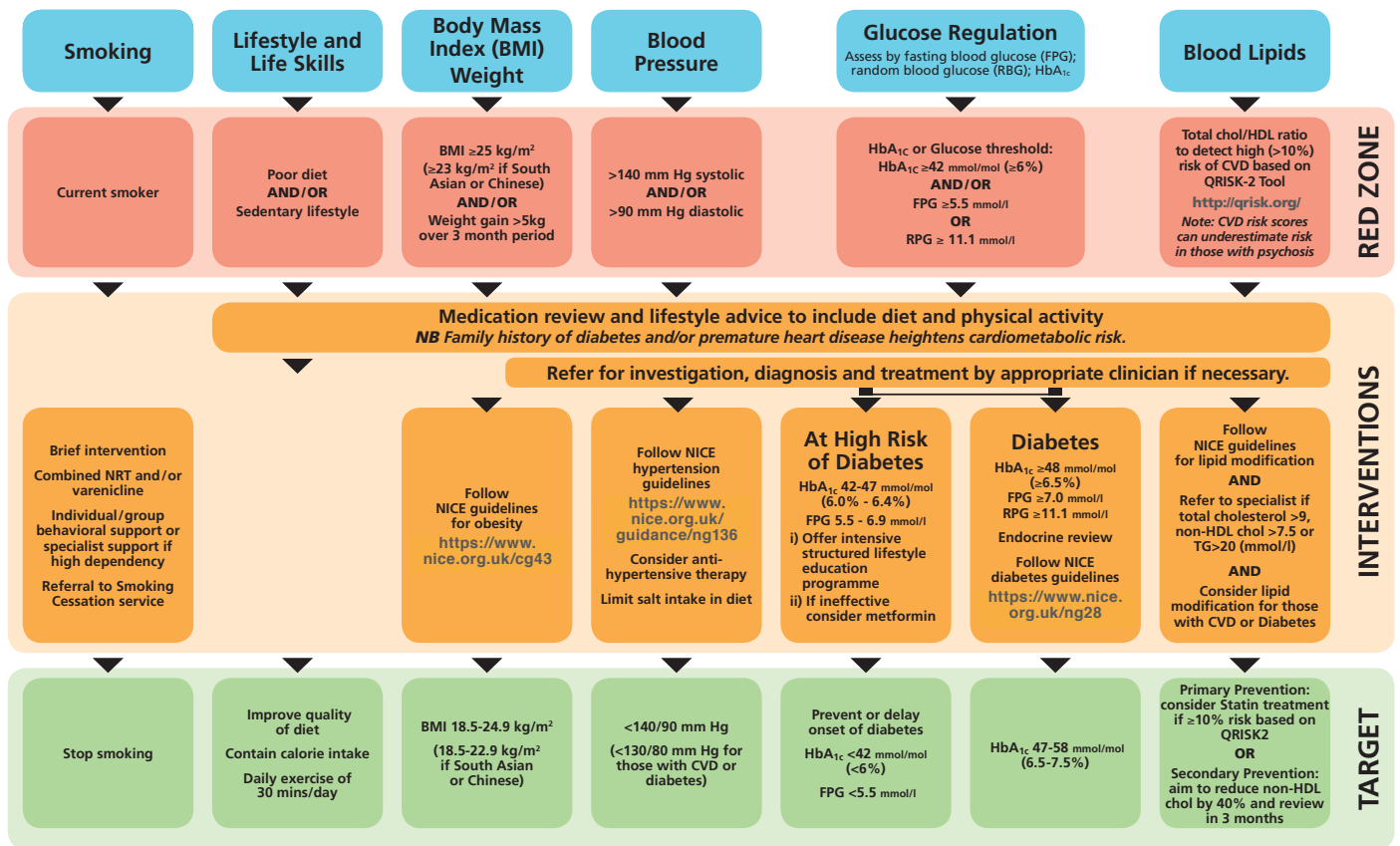
Antipsychotic medication	Likelihood of treatment-related glucose abnormalities
First generation	
Haloperidol	Lower
Fluphenazine	Lower
Perphenazine	Lower
Chlorpromazine	Higher
Second generation	
Olanzapine	Higher
Clozapine	Higher
Aripiprazole	Lower
Ziprasidone	Lower
Risperidone	Intermediate
Quetiapine	Intermediate
Amisulpride	Lower

Screening and monitoring

- Early and regular screening for diabetes in this population is advised.
- Diabetes in people with schizophrenia is associated with an earlier age of onset and more diabetes-related complications than in the general population.
- Encourage all people taking antipsychotics to monitor their weight, if they have the capacity and resources to do so. Responsibility for tracking changes in weight and other CVD risk factors ultimately lies with healthcare professionals.
- For type 2 diabetes, British Association for Psychopharmacology guidelines advise using fasting or random blood glucose measurements initially and at 12 weeks after commencing an antipsychotic medication, followed by annual HbA_{1c} measurements¹¹.
- A UK audit found that only 56% of people with schizophrenia had a record of blood glucose or HbA_{1c}¹².
- In the event of weight gain or change in antipsychotic medications, monitor more frequently.
- Given the increased morbidity and mortality associated with diabetes and CVD, all known cardiovascular risk factors such as smoking, hypertension and hyperlipidaemia must be addressed.
- The Lester resource (see over) provides a practical framework for assessing and managing cardiometabolic risk in people with SMI. The full framework is available to download at <https://bit.ly/2Ug9WHq>.

Positive Cardiometabolic Health Resource

An intervention framework for people experiencing psychosis and schizophrenia



FPG = Fasting Plasma Glucose | RPG = Random Plasma Glucose | BMI = Body Mass Index | Total Chol = Total Cholesterol | HDL = High Density Lipoprotein | TRIG = Triglycerides

Acute presentation

- Diabetes can present acutely in people taking antipsychotic medications and has been associated with potentially fatal diabetes emergencies.
- A direct toxic effect of the antipsychotic on beta-cells may be the cause.
- Symptoms of diabetes (polyuria, polydipsia and weight loss) must be explained to people taking antipsychotic medications, so they know to seek urgent help.

Management

- Pharmacological management of metabolic factors, including blood pressure and lipids, is no different in people on antipsychotic medication.
- Smoking cessation advice should not be forgotten.

Overweight and obesity

- Short-term studies suggest metformin may attenuate antipsychotic-induced weight gain¹³, while metformin has been shown to reduce the incidence of type 2 diabetes in the general population. Greater weight loss, however, is likely to be needed to prevent type 2 diabetes.
- Metformin is not appropriate for individuals with alcohol dependence syndrome, which is common in people with SMI, because of the risk of lactic acidosis.
- GLP-1 receptor agonists (RAs) show promise as effective and tolerable treatments to facilitate weight loss, but are not available on the NHS for this indication at present¹⁴.

Type 2 diabetes

- Treatment in people with schizophrenia is generally the same as for those without it.
- Work in partnership with people with diabetes and SMI to agree a personalised care plan to help them to achieve the recommended targets. Support them to attend appointments and ensure they receive their annual review.
- Address lifestyle factors. Discuss carbohydrates and how limiting portion sizes will reduce blood glucose levels and the need for medication.
- Use metformin as first-line treatment.
- GLP-1 RAs may be appropriate as second-line treatment.
- Pharmacological treatment should be escalated promptly, as required. SGLT2 inhibitors may be beneficial early on owing to their weight-loss properties.
- Be aware that people with SMI are more likely to develop acute and microvascular or macrovascular complications¹⁵.

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