South East London Integrated Medicines Optimisation Committee
Formulary recommendation

Reference	**164**
Intervention:	**Metformin immediate release or modified-release tablets for the prevention or reversal of antipsychotic-induced weight gain in adults** (Metformin is a biguanide, with antihyperglycaemic effects, on both basal and postprandial hyperglycaemia)
Date of Decision:	**September 2025**
Date of Issue:	**December 2025**
Recommendation:	**Amber 2 – initiation and prescribing for a minimum of 6 months from the specialist mental health team at South London and Maudsley (SLaM) NHS Foundation Trust or Oxleas NHS Foundation Trust, after which prescribing may be transferred to primary care**

Further Information	• Metformin immediate or modified-release (M/R) tablets are accepted for use in South East London (SEL) for:
	  ○ the prevention of weight gain in adults prescribed clozapine and olanzapine **OR**
	  ○ the reversal of weight gain in adults prescribed any antipsychotic who have gained weight within the following definition:
	*Weight gain equal to or above 2kg **or** equal to or above 3% of baseline weight - whichever is smaller.*
	• The use of metformin in this setting is **off-label***. The off-label nature should be explained to the patient/carer and informed consent gained.
	• The initiation of metformin in this setting is **restricted** to South London and Maudsley (SLaM) and Oxleas NHS Foundation Trusts, following a minimum of 6 months prescribing and a review has occurred to determine if ongoing treatment is indicated. Prescribing can then be continued in primary care under "Amber 2" arrangements.
	• For patients with an estimated glomerular filtration rate (eGFR) of equal to or above 45 mL/min, metformin should be initiated at 500mg once daily (with evening meal). After 10 – 15 days, metformin can be increased to 1g once daily.
	• Further dose increases should be carried out every 10-15 days in 500mg increments following a review of tolerability and effectiveness. A dose of at least 1g daily is desired, the maximum dose is 2g daily.
	• For patients with an eGFR of 30 – 44 mL/min, the maximum dose is 1g daily. Metformin is contraindicated in patients with an eGFR below 30 mL/min.
	• Patients will be monitored for weight gain by the specialist team by measuring weight at baseline followed by weekly for the first 4-6 weeks, then every 2-4 weeks for up to 12 weeks, then at 6 months. Metformin should be stopped if there has been weight gain of equal to or above 5% from baseline weight after 3 months of treatment with metformin
	• Patients will be monitored for weight gain by primary care following 12 months of treatment with metformin and annually thereafter as part of the severe mental illness (SMI) annual physical health check. Blood glucose monitoring is not required unless metformin is prescribed alongside other medications known to cause hypoglycaemia.
	• In line with the Summary of Product Characteristics (SPC), annual eGFR monitoring is recommended.
	• In cases of poor treatment response, clinicians should engage in shared decision making with patients to discuss the relative benefits of treatment with metformin (e.g., delaying progression to type 2 diabetes) and risks (e.g., vitamin B12 deficiency) of continuing metformin treatment long-term.
	
	*Metformin is licensed for the treatment of type 2 diabetes mellitus, particularly in overweight patients, when dietary management and exercise alone does not result in adequate glycaemic control.

Shared Care/ Transfer of care required:	N/A
Cost Impact for agreed patient group	• The application estimates a total of 6,846 patients (5,946 patients for SLaM and 900 patients for Oxleas) in SEL might be eligible for treatment with metformin in this setting. Assuming the use of the M/R tablet preparation: - The cost per patient per annum based on 1g daily target dose is £14.34 (based on November 2025 Drug Tariff prices). At a dose of 2g daily, the cost would be £28.68 per patient per annum. - If all patients received metformin M/R, this would equate to an approximate cost for SEL of between £98.2k to £196.3k per annum (or ~£4,909 to £9,819 per 100,000 population per year).
Usage Monitoring & Impact Assessment	**Mental Health Trusts** • Monitor use and submit usage data and audit reports upon request to the Committee.
	SEL Borough Medicines Teams: • Monitor ePACT2 data. • Exception reports from GPs if inappropriate prescribing requests are made to primary care.
Evidence reviewed	**References (from evidence evaluation)** 1. Aoife Carolan, Caroline Hynes-Ryan, Sri Mahavir Agarwal, et al. Metformin for the Prevention of Antipsychotic-Induced Weight Gain: Guideline Development and Consensus Validation, Schizophrenia Bulletin, 2024. 2. NICE Clinical Knowledge Summaries (CKS). Psychosis and schizophrenia: adverse effects. Available online here (accessed 27/08/25). 3. Agarwal SM, Stogios N, Ahsan ZA, et al. Pharmacological interventions for prevention of weight gain in people with schizophrenia. Cochrane Database Syst Rev. 2022 Oct 3;10(10):CD013337. 4. Heald, A., Daly, C., Warner-Levy, J.J. et al. Weight change following diagnosis with psychosis: a retrospective cohort study in Greater Manchester, UK. Ann Gen Psychiatry 23, 1 (2024). 5. NICE (2014) Psychosis and schizophrenia in adults: treatment and management (NICE guideline). Clinical guideline (CG) 178. National Institute for Health and Care Excellence. 6. Cooper SJ, Reynolds GP, et al. BAP guidelines on the management of weight gain, metabolic disturbances and cardiovascular risk associated with psychosis and antipsychotic drug treatment. J Psychopharmacol. 2016 Aug;30(8):717-48. 7. Pillinger T, McCutcheon RA, et al. Comparative effects of 18 antipsychotics on metabolic function in patients with schizophrenia, predictors of metabolic dysregulation, and association with psychopathology: a systematic review and network meta-analysis. Lancet Psychiatry. 2020 Jan;7(1):64-77. 8. Taylor D, et al. The Maudsley Practice Guidelines for Physical Health Conditions in Psychiatry. United Kingdom Wiley- Blackwell 2020. 9. Metformin 500mg tablets, Summary Of Product Characteristics. Available online here (accessed 27/08/25) 10. Yu O, Lu M, Lai TKY, et al. Metformin co-commencement at time of antipsychotic initiation for attenuation of weight gain: a systematic review and meta-analysis. Ther Adv Psychopharmacol 2024. 11. Siskind D, Russell AW, Suetani S, et al. CoMET: a randomised controlled trial of co-commencement of metformin versus placebo as an adjunctive treatment to attenuate weight gain in patients with schizophrenia newly commenced on clozapine. Therapeutic Advances in Psychopharmacology. 2021;11. 12. de Silva VA, Suraweera C, Ratnatunga SS, et al. Metformin in prevention and treatment of antipsychotic induced weight gain: a systematic review and meta-analysis. BMC Psychiatry. 2016 Oct 3;16(1):341. 13. Siskind DJ, Leung J, Russell AW, et al. Metformin for Clozapine Associated Obesity: A Systematic Review and Meta-Analysis. PLoS One. 2016 Jun 15;11(6):e0156208. 14. Metformin and reduced vitamin B12 levels: new advice for monitoring patients at risk. Medicines and Healthcare products Regulatory Agency. Available online here (accessed 02/09/25)

NOTES:

a) SEL IMOC recommendations and minutes are available publicly via the website.

b) This SEL IMOC recommendation has been made on the cost effectiveness, patient outcome and safety data available at the time. The recommendation will be subject to review if new data becomes available, costs are higher than expected or new NICE guidelines or technology appraisals are issued.

c) Not to be used for commercial or marketing purposes. Strictly for use within the NHS