

Sussex Partnership NHS Foundation Trust

Reducing benzodiazepine and z-drug prescriptions in secondary mental health care



QIP: Reducing benzodiazepine and z-drug prescriptions

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Topic Area

Please identify (more than one option may be selected)

Adaptation <input type="checkbox"/>	Communications and engagement <input type="checkbox"/>	Estates and facilities (energy, waste, water) <input type="checkbox"/>	Food, catering and nutrition <input type="checkbox"/>
Funding and financial mechanisms <input type="checkbox"/>	Medicines <input checked="" type="checkbox"/>	Research, innovation and offsetting <input type="checkbox"/>	Strategic ambition <input type="checkbox"/>
Supply chain and procurement <input type="checkbox"/>	Sustainable models of care <input type="checkbox"/>	Travel and transport <input type="checkbox"/>	Workforce, networks and system leadership <input type="checkbox"/>
Green/blue space and biodiversity <input type="checkbox"/>	Digital transformation <input type="checkbox"/>	Sustainability education <input checked="" type="checkbox"/>	
Other (please specify):			

**Topics aligned with the 12 Greener NHS workstreams (NHS England) are shaded.*

Key message / aim

The aim of this quality improvement project was to reduce the number of benzodiazepine and z-drug prescriptions in psychiatric patients in East Sussex, in both inpatient and community settings. 25% of NHS carbon emissions are directly related to medicines (1). Overprescribing generates waste and unnecessary carbon emissions, with £300 million worth of medication going unused annually in

England and only 16% of patients taking medications as prescribed (2). If we can use medication in the most efficient way possible, we will save a significant amount of waste, carbon emissions and money.

What was the problem?

Benzodiazepines and z-drugs are commonly prescribed medications in a variety of psychiatric settings. In UK psychiatric inpatients, 18.7% are prescribed benzodiazepines, most commonly to manage anxiety (50%), aggression (25.6%) and agitation (14.4%) (3). The majority of inpatient benzodiazepine prescriptions are for >4 weeks (95.6%) and off-label (94.4%) (3), despite NICE guidance that patients on long-term benzodiazepines should have their medication reviewed regularly and be advised to stop due to this lack of long-term net benefit and concerns regarding side effects, tolerance and dependence. A separate study in Scotland found that 1/3 of psychiatric inpatients were prescribed a benzodiazepine or z-drug at discharge with 1/5 receiving continuous long-term treatment for 12 months post-discharge (4). In a cross-sectional UK community study, 12.1% of older adults were prescribed one or more benzodiazepine and/or z-drug: 5.9% a benzodiazepine, 7.5% a z-drug, and 1.3% were prescribed both (5).

These high national rates of long-term benzodiazepine and z-drug prescribing corresponded with our findings in East Sussex. Most patients (64%) on benzodiazepine and z-drugs who had medication reviews as part of our quality improvement project had these drugs prescribed for >4 weeks, despite these medications not being recommended in the long term by NICE.

Five resident doctors working in Sussex Partnership Foundation Trust set up an East Sussex Trainee Sustainability Network to collaborate on local sustainability projects. We ran teaching on sustainable healthcare and co-developed this quality improvement project.

What was the solution?

Five resident doctors participated in this quality improvement project, meeting regularly to identify patients on their caseloads in whom benzodiazepine and z-drug prescriptions could be reduced or stopped. There was a range of experience within our group which benefited peer learning; the trainee sustainability network consisted of two foundation doctors, a GP trainee, a core psychiatry trainee and a higher trainee in General Adult Psychiatry. Anonymised patient data was collected on a spreadsheet. Resident doctors shared resources including patient information leaflets, Maudsley Deprescribing Guidelines and discussed helpful strategies to encourage patients to stop medication where indicated.

What were the challenges?

Resident doctors starting the quality improvement project initially reported low rates of confidence around having discussions with patients about stopping benzodiazepines and z-drugs (0% reported feeling confident) and little familiarity with the concept of sustainable healthcare (only 33% said they understood this term). To overcome this, we held an initial teaching session on sustainable healthcare as well as having regular meetings during the quality improvement project where resident doctors could share helpful strategies for medication reviews.

Only one patient approached for medication review as part of the quality improvement project refused to stop or reduce the dose of diazepam she was taking while admitted to a psychiatric ward. This was felt to be clinically appropriate as she was still in a period of crisis and was regularly self-harming.

Of the remaining patients who had agreed to dose reduction or cessation of benzodiazepines and/or z-drugs following medication review, 77% were fully compliant with planned changes at 4 week follow up, 15% were partially compliant and 8% resumed the original dose of prescribed z-drug. The patients who were unable to stay with planned medication changes had experienced a relapse of anxiety or insomnia when benzodiazepines and/or z-drugs were stopped or reduced.

What were the results/Impact?

Between September and December 2024, 14 medication reviews were undertaken in patients already prescribed benzodiazepine or Z-drugs, 11 of whom were from working age adult acute wards, 1 was from a mental health liaison caseload and 2 from an older adults community team. Their psychiatric diagnoses (note patients may have had >1) were mixed anxiety and depression (5), EUPD (3), psychotic disorder (3), BPAD (3), substance misuse (3), autism (2), PTSD (1), ADHD (1), adjustment disorder (1), anorexia nervosa (1) and Alzheimer's disease (1). 6 were prescribed regular benzodiazepines, 1 was prescribed regular zopiclone, 3 were on regular benzodiazepine + PRN zopiclone, 2 were on PRN benzodiazepine + PRN zopiclone, 1 was on PRN benzodiazepine and 1 was on PRN zopiclone.

Medication reviews with these patients involved resident doctors explaining the relative benefits and risks of benzodiazepines and z-drugs to patients, recommending dose reduction or cessation and providing information leaflets.

Following the intervention, 4 patients (29%) agreed to stop these medications and 9 patients (64%) agreed to a dose reduction, while 1 patient (7%) remained on the same dose.

Patients were followed up 4 weeks after the medication review took place, to identify whether they remained compliant with planned medication changes. Of the 13 patients who had agreed to stop or reduce the dose of prescribed benzodiazepines and z-drugs, 10 patients (77%) had stuck to these agreed changes at 4-week follow up, 2 patients (15%) were partially compliant, while 1 patient (8%) had resumed the original dose of prescribed z-drug.

Patient outcomes: 13 (out of 14) patients agreed to stop or reduce the dose of prescribed benzodiazepines and/or z-drugs at the time of medication review, and 92% of these were fully or partially compliant with planned changes 4 weeks later. This reduced the side-effect burden these patients were experiencing and reduced their risk of long-term dependence. Patients were also given information about positive coping strategies to manage anxiety, agitation and insomnia at time of medication review which was likely to benefit their mental health in a safer and more holistic way in the longer term.

Environmental impact: Medicines are responsible for 25% of NHS carbon emissions (from their manufacture, procurement transport) (1) and therefore interventions that reduce the amount of medication prescribed will reduce the associated carbon footprint. While specific data for the carbon emissions of benzodiazepines and z-drugs stopped in this project was not available, our quality improvement project resulted in 630 fewer tablets being taken by patients included over one month, and therefore an estimated 7560 fewer tablets were taken over a whole year if patients were able to maintain these changes.

Social impact: One patient was keen to stop his prescribed benzodiazepine because he was hoping to return to employment and was concerned about the sedative effect of this medication affecting

his ability to work. Therefore, participating in a medication review as part of this QI project improved his confidence in finding work.

Financial impacts:

Total money saved from reducing prescribed medication for the patients involved in our audit (calculated using British National Formulary pricing information) was £61.85 per month, and therefore estimated money saved over 1 year (assuming patients continued compliance with medication changes) was calculated to be £742.14.

What were the learning points?

In summary, this project showed that a simple intervention (medication review led by a resident doctor) was effective in resulting in reduced benzodiazepine and z-drug prescriptions in both community and inpatient settings, with 93% of patients approached agreeing to cessation or dose reduction of these medications. At 4 weeks post-intervention, there was a high rate (77%) of concordance with planned medication changes.

Resident doctors also reported that participating in this quality improvement project improved their confidence in leading medication reviews for patients and their understanding of sustainable healthcare. By the end of the QI project, 100% of residents stated they felt confident having a conversation with a patient about stopping benzodiazepines and z-drugs (100% selecting 'strongly agree', compared to 0% selecting agree/strongly agree prior to the project). All resident doctors also stated that they had a good understanding about the concept of sustainable healthcare by the end of the QI project, compared to only 33% stating they were familiar with this topic prior to getting involved.

Next steps

The main limitation of this project was a relatively small sample size (n=14). This was a result of resident doctors only having a limited timeframe to complete the project due to doctors moving on to their next placements in December 2024. Suggested improvements to the project from the resident doctors involved included making team consultants aware of the quality improvement project in advance and more training on alternative coping mechanisms for patients that could be implemented when medications were stopped.

This project could be repeated with future cohorts of resident doctors in order to increase the overall sample size and gain further feedback on improvements to the project from new team members.

What the team and/or patients and carers had to say

Quotes from resident doctors involved in the project:

“Very insightful and gave me a different perspective to prescribing.”

“It was useful having these conversations with patients because benzodiazepines and z-drugs are often medications that patients are reluctant to come off. I found that sitting down and talking to patients about it really allowed them to have a better understanding of why coming off the drugs might be beneficial for them.”

“As a foundation doctor, I am not usually making decisions about management so it was also both enjoyable and useful to discuss with patients how to reduce a dose and come off a psychiatric medication.”

Resources and references

1. NHS England. Delivering a Net Zero National Health Service. <https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2022/07/B1728-delivering-a-net-zero-nhs-july-2022.pdf> 2022. [Accessed 8th November 2024].
2. Centre for Sustainable Healthcare. Sustainable Mental Healthcare. <https://sustainablehealthcare.org.uk/courses/sustainable-mental-healthcare> [Accessed 8th November 2024].
3. Haw C, Stubbs J. Benzodiazepines—a necessary evil? A survey of prescribing at a specialist UK psychiatric hospital. *Journal of Psychopharmacology*. 2007 Aug;21(6):645-9. <https://journals.sagepub.com/doi/abs/10.1177/0269881106072386>
4. Johnson CF, Nassr OA, Harpur C, Kenicer D, Thom A, Akram G. Benzodiazepine and z-hypnotic prescribing from acute psychiatric inpatient discharge to long-term care in the community. *Pharmacy Practice (Granada)*. 2018 Sep;16(3). https://scielo.isciii.es/scielo.php?pid=S1885-642X2018000300009&script=sci_arttext
5. Johnson CF, Frei C, Downes N, McTaggart SA, Akram G. Benzodiazepine and z-hypnotic prescribing for older people in primary care: a cross-sectional population-based study. *British Journal of General Practice*. 2016 Jun 1;66(647):e410-5. <https://bjgp.org/content/66/647/e410.full>

Want to know more?

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- Location & NHS Region if within the UK: Sussex Partnership NHS Foundation Trust
- Partner organisations involved:
- Has this project or story been made public in any form before? Preliminary results presented at Sussex Partnership NHS Foundation Trust Annual Trainees' Audit Fair 20th November 2024.

This quality improvement project was completed by Dr Maria Lobo, Dr Bilal Alriyahi, Dr Remya Salimkumar, Dr Claudia Salwey and Dr Haneen Eltayeb.

Critical success factors			
Please select one or two of the below factors that you believe were most essential to ensure the success of your project changes.			
People	Process	Resources	Context
<input type="checkbox"/> Patient involvement and/or appropriate information for patients - to raise awareness and understanding of intervention <input checked="" type="checkbox"/> Staff engagement <input type="checkbox"/> MDT / Cross-department communication <input checked="" type="checkbox"/> Skills and capability of staff <input type="checkbox"/> Team/service agreement that there is a problem and changes are suitable to trial (Knowledge and understanding of the issue) <input type="checkbox"/> Support from senior organisational or system leaders	<input type="checkbox"/> clear guidance / evidence / policy to support the intervention. <input type="checkbox"/> Incentivisation of the strategy – e.g., QOF in general practice <input type="checkbox"/> systematic and coordinated approach <input type="checkbox"/> clear, measurable targets <input type="checkbox"/> long-term strategy for sustaining and embedding change developed in planning phase <input type="checkbox"/> integrating the intervention into the natural workflow, team functions, technology systems, and incentive structures of the team/service/organisation	<input type="checkbox"/> Dedicated time <input type="checkbox"/> QI training / information resources and organisation process / support <input type="checkbox"/> Infrastructure capable of providing teams with information, data and equipment needed <input type="checkbox"/> Research / evidence of change successfully implemented elsewhere <input type="checkbox"/> Financial investment	<input type="checkbox"/> aims aligned with wider service, organisational or system goals. <input type="checkbox"/> Links to patient benefits / clinical outcomes <input type="checkbox"/> Links to staff benefits <input type="checkbox"/> 'Permission' given through the organisational context, capacity and positive change culture.