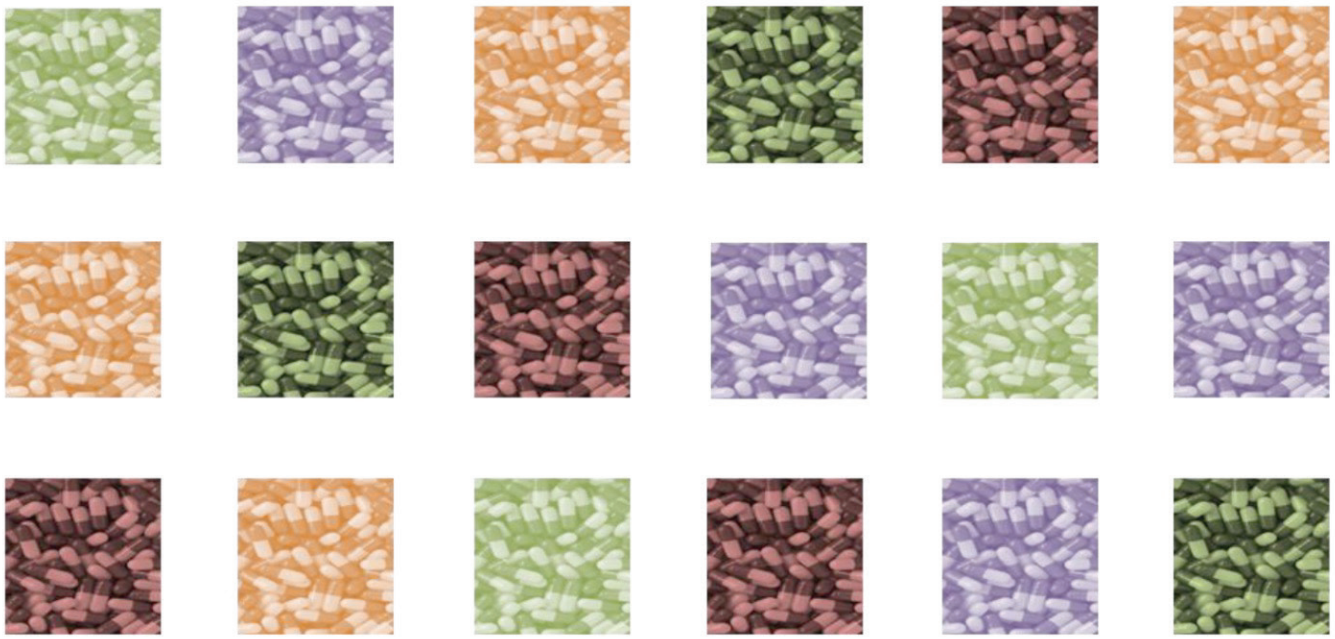
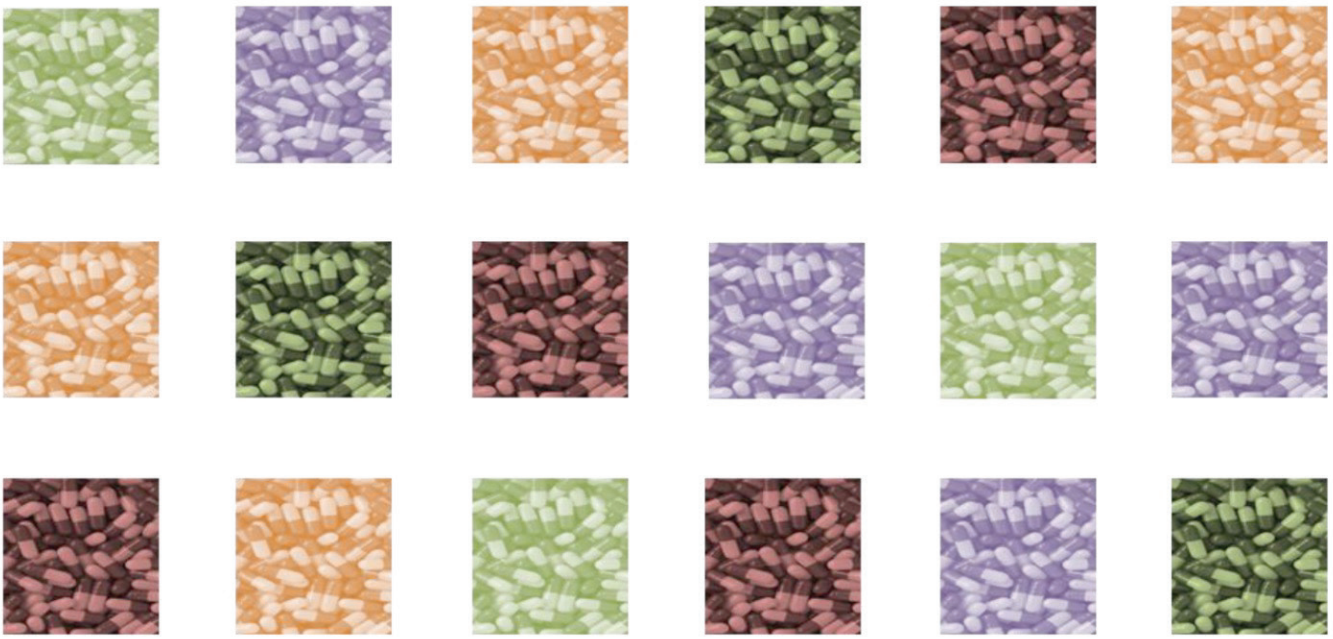


Quality Prescribing for Benzodiazepines and z-drugs

A Guide for Improvement 2024-2027



NHS SCOTLAND

REALISTIC MEDICINE

EFFECTIVE PRESCRIBING & THERAPEUTICS DIVISION

Scottish Government
Riaghaltas na h-Alba

Clinical foreword

We are delighted to present the Quality Prescribing for Benzodiazepine and z-drugs Guide for adults. This guide is welcomed as an opportunity to further improve the care of those requiring benzodiazepine and z-drugs. It promotes a holistic approach to person-centred care and review of treatment, highlighting the importance of addressing health inequalities alongside wider climate and sustainability challenges. The recommendations are aimed at supporting people receiving these medicines, healthcare professionals, general practice clusters, health boards and health and social care partnerships and are designed to support improvements in healthcare service redesign and provision of care.

Benzodiazepines and z-drugs are indicated for a variety of conditions including the short-term relief of severe insomnia and some anxiety disorders. People can quickly become tolerant to the therapeutic effects of benzodiazepines and z-drugs, rendering them ineffective. Nonetheless chronic use is common, exposing people to avoidable adverse drug effects and harms, and associated increased mortality risks with their use.

This guide is primarily intended to support healthcare professionals and others in the appropriate prescribing of benzodiazepines and z-drugs; supporting and enabling proactive person-centred reviews, and continuation, reduction and stopping of these medicines where appropriate.

An important principle in improving the care of individuals on benzodiazepine and z-drugs is to consider the role of the individual in shared decision-making and adopt a person-centred approach when discussing treatment options available. The 7-Steps medication review process allows a person-centred approach to both the initiation and review of existing treatment, centred around the needs of the individual.

This guide is not intended to supersede other prescribing advice such as NICE, British Association for Psychopharmacology (BAP), Scottish Government Polypharmacy Guidance or the principles outlined in the Realising Realistic Medicine report. It is intended to complement them and offer additional practical advice and options for tailoring care to the needs and preferences of the individual.

We are extremely grateful to all those who contributed to the working group and to the review and development of this guide.

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Executive Summary

Benzodiazepine and z-drug (B-Z) prescribing continues to slowly reduce across Scotland. In part this is due to a range of work carried out over the years, at general practice, health and social care partnership and health board levels, as well as individuals engaging with these initiatives to enable reductions in inappropriate use and prescribing of these medicines.

Despite this reduction, benzodiazepine and z-drug prescribing remains a challenge in Scotland. Over the last 30 years prescribers have managed to reverse the significant growth that was seen in the 1970s and 80s, when more than one in ten people in the UK received a benzodiazepine.[1,2]

It is recognised that B-Z can provide some benefits in the treatment of insomnia and some anxiety disorders in the short term, however, there is increased mortality associated with B-Z use in a range of populations and their use is associated with tolerance, dependence and avoidable medicine related harms. They are associated with an increased incidence of depressive symptoms and can have a cumulative effect when used together with other sedating medication, such as opioids or gabapentinoids, increasing the risk of medicine related harms.

While we have come a long way in addressing inappropriate use, there is still work to be done to further reduce chronic benzodiazepine and z-drug use. Therefore, this quality prescribing guide is intended to support key stakeholders and prescribers to deliver proactive person-centred medication reviews to ensure effective use of benzodiazepine and z-drugs and minimise risks associated with their use. Where appropriate, and in line with current guidance, consideration should be given to non-pharmacological and evidence-based psychological interventions, either to support treatment or as alternative treatment option [see Recommendations].

This guide has been developed by the collaborative efforts of a multidisciplinary team of clinicians, academics, experts by lived experience, patient groups and policy makers from Scottish Government and NHS Scotland, who are already delivering work around benzodiazepine and z-drug prescribing to improve outcomes for the people of Scotland. It offers practical and evidenced based recommendations to prescribers and does not override existing local and national guidelines for the treatment and management of common mental health conditions. [see Background].

This guide recommends that there is shared decision-making between individuals and prescribers when reviewing benzodiazepines or z-drug treatment using the 7-Steps review process. Where appropriate, consider the fears and apprehensions associated with reducing or stopping these medicines in order to tailor treatment plans to the needs of the individual [see Recommendations].

The 7-Steps review process provides a clear person-centred approach to the **initiation** of new and **review** of existing treatments, placing an emphasis on ‘what

matters to you'? Although this guide does not cover the use of benzodiazepines in the treatment for problem substance use, the 7-Steps process should be used when reviewing treatment for harm reduction.

Figure 1: The 7-Steps medicine review process

The 7-Steps review process provides a framework for this, considering:

1. **Aim:** what matters to the person?
2. **Need**: identify essential medication.
3. **Need:** any unnecessary medication?
4. **Effectiveness**: are therapeutic objectives met?
5. **Safety:** any ADRs/side effects or a risk of them?
6. **Sustainability**: cost-effective and environmentally sustainable
7. **Person-centred**: is the person willing and able to take drug therapy as intended?

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Summary of recommendations

- People prescribed benzodiazepines or z-drugs (B-Z) are encouraged to initiate discussions regarding the appropriateness of treatment, including recommended duration and need for continuation, reduction or discontinuation of B-Z [see Recommendations].
- In the short-term (e.g. less than two weeks) B-Z can provide some benefits for insomnia, and some anxiety disorders.
- B-Z use is associated with tolerance, dependence and avoidable medicine related harms.
- Studies have reported a higher risk of mortality associated with B-Z use in a range of populations e.g. people with schizophrenia.
- B-Z are associated with an increased incidence of depressive symptoms.
- B-Z may limit the efficacy of psychological therapies such as Cognitive Behavioural Therapy (CBT) due to their negative effects on cognitive function.
- B-Z use is associated with the use of selective serotonin re-uptake inhibitors (SSRIs), and higher SSRI doses for the treatment of depression.

Healthcare professionals should:

- Consider non-pharmacological options, including psychosocial or psychological interventions where appropriate.
- Recognise that the use of benzodiazepines is not recommended for the management of muscle spasm associated with acute low back pain or in the treatment of sciatica.
- Collaboratively develop a clear management plan with the individual, or carers where appropriate.
- Limit treatment duration to, for example, less than two weeks on an ‘as required’ basis when prescribed for the short-term treatment of insomnia or anxiety disorders.
- Record the indication for B-Z in clinical records [see Recommendations].
- Consider the ‘benzo-burden’ – the total benzodiazepine-type medicine load prescribed per day. Benzodiazepines, z-drugs and gabapentinoids provide synergistic effects such as sedation and respiratory depression.
- Only prescribe B-Z and opioids together if there is no alternative and closely monitor individuals for signs of respiratory depression.
- Proactively review the need for B-Z when individuals are stable and well, to minimise avoidable medicine related harms and optimise care.

- Prescribe multiples of 2mg tablets as the preferred choice where diazepam treatment is required.
- Utilise the 7-Steps review process to ensure person-centred reviews. See List 2 for those who may be prioritised for proactive reviews [see Targeting reviews].
- Apply a multidisciplinary whole system approach, including reception staff, pharmacy teams, practice nurses and GPs, to identify people for review.
- Use different strategies for reducing and stopping B-Z, depending on the individual's preferences and needs [see Reducing and stopping].
- Use clinical systems such as the Scottish Therapeutics Utility (STU) available within all GP practices in Scotland to help identify individuals for review.

NHS Boards and Health and Social Care Partnerships (HSCPs) should:

- Consider the prescribing advice within this guide to plan, resource and drive quality improvement and prescribing initiatives.
- Consider and engage a whole system approach to delivering quality improvements in prescribing.
- Recognise the significant influence of secondary care in prescribing behaviour.
- Ensure primary and secondary care are informed about the guide, to support continuity of care and the overall goals of reviewing and minimising inappropriate prescribing.
- Nominate local leads/champions to support implementation of the guidance.
- Work with third sector and services to develop and support the capacity for self-management and access to non-pharmacological treatment options.
- Work with hospitals to review B-Z before discharge, to discontinue therapy or communicate a reduction plan for any B-Z prescriptions started in hospital.
- Support care homes to ensure any B-Z prescribed have an appropriate indication and are prescribed at the lowest therapeutic dose to achieve the desired effect and reduce risk of harm.
- Enable general practice clusters and local prescribing support teams to improve the quality of prescribing, through promotion and use of local and national measures, datasets and tools.
- Implement and use this guidance to improve care, clinical outcomes and minimise avoidable medicine-related harm from B-Z.

1. Why is this quality prescribing guidance needed?

Background

Benzodiazepines or z-drugs (B-Z) are used for a variety of conditions, including in the treatment of insomnia, and some anxiety disorders, and are commonly prescribed for people experiencing a range of comorbidities. This guide provides general principles to support person-centred review of individuals receiving B-Z, using the 7-Steps process, from their initiation to cessation as well as during the post-treatment follow up period. It includes advice for treatment plans, managed reductions, and stopping where this is appropriate for adults. This advice supports healthcare professionals and others in the appropriate use of B-Z, enabling proactive person-centred reviews, and appropriate continuation, reduction and stopping of B-Z.

This advice is not intended to supersede other prescribing and treatment advice such as NICE, British Association for Psychopharmacology (BAP), Scottish Government Polypharmacy Guidance[3] or the principles outlined in the Realising Realistic Medicines report, but rather to complement them and offer additional practical advice and options for tailoring care to the needs of the individual.

What are the benefits to the person receiving benzodiazepines and/or z-drugs?

This quality prescribing guide is intended to encourage supportive and constructive discussions between individuals and prescribers, to enable shared decision-making when reviewing B-Z and consider the fears and apprehensions associated with reducing or stopping B-Z, tailoring treatment plans to the needs of the individual.

This guidance focuses on quality prescribing to result in improvements in care. The 7-Steps medication review process promotes a shared decision-making approach to medicine reviews and places the individual at the centre, to ensure prescribing is effective and appropriate for them. People will be encouraged to self-manage their condition where appropriate and be asked 'what matters to you?'[4] to support a holistic approach in line with the Scottish Government's polypharmacy guidance.[3]

To ensure outcomes from medication are optimised, and prescribing is appropriate and safe, the 7-Steps medication review process provides a clear structure for both the **initiation** of new and the **review** of existing treatments, and places an emphasis on 'what matters to the individual'? A polypharmacy review (following the 7-Steps approach) should ensure optimal management of conditions. It should include addressing aggravating lifestyle factors and consideration of the most appropriate medication at the right dose, with regular review. The following 7-Steps are intended as a guide to structure the review process.

Step 1: Aim: What matters to the patient?
Step 2: Need: Identify essential drug therapy.
Step 3: Need: Does the patient take unnecessary drug therapy?
Step 4: Effectiveness: Are therapeutic objectives being achieved?
Step 5: Safety: Is the patient at risk of ADRs or suffers actual ADRs?
Step 6: Sustainability: Is therapy cost-effective and environmentally sustainable?
Step 7: Person-centred: Is the person willing and able to take therapy as intended?

The 7-Steps to appropriate polypharmacy demonstrate that the review process is not in fact a linear single event, but cyclical, requiring regular repeat and review (see Figure 2). The circle is centred on what matters to the individual, ensuring they are provided with the right information, tools and resources to make informed decisions about their medicines and treatment options. It should be used at both initiation and review of medicines.

Figure 2: The 7-Steps medicine review process

It is important to routinely and proactively monitor and review the ongoing need for B-Z. While the prescribing of B-Z has steadily declined over the last 30 years, and continues to decrease, 1 in 15 (6.8%) adults (≥18 years), and 1 in 11 (8.9%) older adults (≥65 years) in Scotland were prescribed a B-Z in 2020/21.[1]

The majority of B-Z are prescribed by general practitioners (GPs) in primary care, however some of these prescriptions are initiated and continued on the advice of neurologists, psychiatrists and other specialists, and may result in deliberate or inadvertent long-term use.[5,6,7,8]

For a very small minority of people long-term (≥8weeks) B-Z use may be considered appropriate, for example, in Parkinson's disease or epilepsy.[9,10] For the vast majority, long-term use of B-Z raises the risk of harm and runs contrary to current clinical guidelines and drug licensing, as B-Z are licensed for a maximum of four weeks duration.[1,5,11,12,13] B-Z also demonstrate limited therapeutic effects for the short-term (e.g. less than two weeks) treatment of insomnia and some anxiety disorders (e.g. generalised anxiety disorder, panic disorder).[13,14,15]

B-Z use is associated with tolerance, dependence and avoidable drug-related harms. These harms include but are not limited to:

- cognitive dysfunction (confusion, impaired concentration, memory impairment, impaired ability to drive and increased accidents)
- falls, and associated increased risk of hip fractures
- depressive symptoms
- paradoxical effects i.e. disinhibition, anxiety and impulsivity.[12,16]

More recently studies have reported increased mortality associated with B-Z use in a range of populations.[17,18,19]

In the short-term (e.g. less than two weeks) B-Z can provide some benefits for insomnia, and some anxiety disorders.[14,15] However, they are associated with reducing the effectiveness of psychological therapies and worsening depressive symptoms, causing cognitive dysfunction which may prolong symptoms and slow recovery.[12,20,21,22]

The use of benzodiazepines is not recommended for the management of muscle spasm associated with acute low back pain.[23] Benzodiazepines should also not be used in the treatment of sciatica.[24] It is acknowledged that they are used as muscle relaxants in other causes, such as managing muscle spasm pain in palliative care.[25,26]

B-Z are also associated with a 60-80% increased risk of road traffic accidents,[27,28] which led the Department of Transport in 2015 to make it 'illegal in England, Scotland and Wales to drive with legal drugs in your body if it impairs your driving'.[29]

There are concerns regarding the role of B-Z in drug-related deaths.[19,30] This is complicated by more than one drug being used (polydrug use), the use of high B-Z doses ('mega-dose') and ageing populations.

There is a lack of evidence that B-Z are routinely diverted from primary care prescriptions. Although small quantities of B-Z have previously been diverted by some individuals, the greater use of instalment dispensing and supervised consumptions can help to reduce this. The electronic transfer of prescriptions in Scotland also reduces the risk of prescriptions being forged or amended. While these methods have been successful in restricting licensed B-Z, it is harder to restrict access to internet and 'street' sources of benzodiazepines such as phenazepam, etizolam, alongside those licensed outside of the UK, or other street preparations with varying concentrations of diazepam.[19,31]

While we are limited in the ability to minimise the use of unlicensed and illegally sourced B-Z, proactively reviewing prescribed B-Z use will help to minimise avoidable drug-related harms and optimise an individual's care.

List 1: Benefits to reviewing benzodiazepines or z-drugs therapy

- Allows assessment of appropriateness and effectiveness of prescribing
- Allows reduction of inappropriate prescribing e.g. long-term
- Minimises risk of avoidable adverse harms associated with their use:
    - depression
    - emotional blunting
    - memory loss and dementia
    - paradoxical effects: anxiety, insomnia, aggression, etc.
    - falls and hip fractures
    - road traffic accidents
    - addiction and dependence
    - increased mortality risks
- An opportunity to consider more effective methods for treating symptoms

What are the benefits to healthcare professionals?

Prescribers have acknowledged that it can be,

> '…easier to start [psychotropic medicines] than to stop [them].'[32]

This may be due to a range of perceived and actual barriers, such as a lack of healthcare professionals' confidence, knowledge or skills to support or enable review and discontinuation of psychotropic medicines, such as B-Z and antidepressants.[32,33] Some electronic clinical systems may also be limited in enabling prescribers to proactively identify people for review. The Scottish Therapeutics Utility (STU) has been developed for use in general practice in Scotland, to help identify people who may benefit from a proactive medication review. General practice staff can routinely use STU to identify and plan B-Z review and quality improvement work.

This prescribing guide provides a practical resource and examples of good practice approaches to identifying individuals at risk of medication related harm, reviewing B-Z and supporting the people in our care.

What are the benefits to organisations?

Implementation and use of this guidance may help improve care, clinical outcomes and minimise avoidable medication-related harm.

Included within this document are a range of prescribing indicators and measures to help focus attention and resources on addressing this area. These measures will be of use to individual general practices, general practice clusters, Health and Social Care Partnerships (HSCPs), and health boards. Case studies and examples of what has already been trialled are also included.

Why is reviewing B-Z use important?

B-Z use is associated with tolerance, possible dependence and avoidable drug-related harms. These harms include but are not limited to:

- cognitive dysfunction (confusion, impaired concentration, memory impairment, impaired ability to drive and increased accidents)
- falls and associated increased risk of hip fractures
- depressive symptoms
- paradoxical effects i.e. disinhibition, anxiety and impulsivity[12,16]

More recently studies have reported increased mortality associated with B-Z use in a range of populations.[17-19]

B-Z prescribing has reduced over the years in Scotland (Chart 1). Chart 2 shows less than 6% of adults receiving B-Z in 2023/24. Long-term (≥8 weeks) use remains common with over 40% of adults receiving B-Z remaining on treatment long-term (Chart 3 Jan-March 2024). This is outwith medicine licensing and runs contrary to current guidelines and prescribing advice.[5,13,15]

Current NICE guidance advises that prescribers 'do not offer a benzodiazepine for the treatment of Generalised Anxiety Disorder (GAD) in primary or secondary care, except as a short-term measure during crises'.[15] However, where their use is considered appropriate for the short-term treatment of insomnia or anxiety disorders their use should be limited to, for example, less than two weeks on an 'as required' basis.[14,15]

Proactively reviewing B-Z prescribing and their use creates an opportunity to reduce and stop inappropriate medicines and has been shown to be effective.[34,35,36,37,38] The use of such proactive reviews across Scotland has helped practices and health boards reduce inappropriate B-Z use, see Charts 2 and 3.

Chart 1: NHS board benzodiazepine and z-drug prescribing by defined daily dose (DDD*) per 1000 list size per day

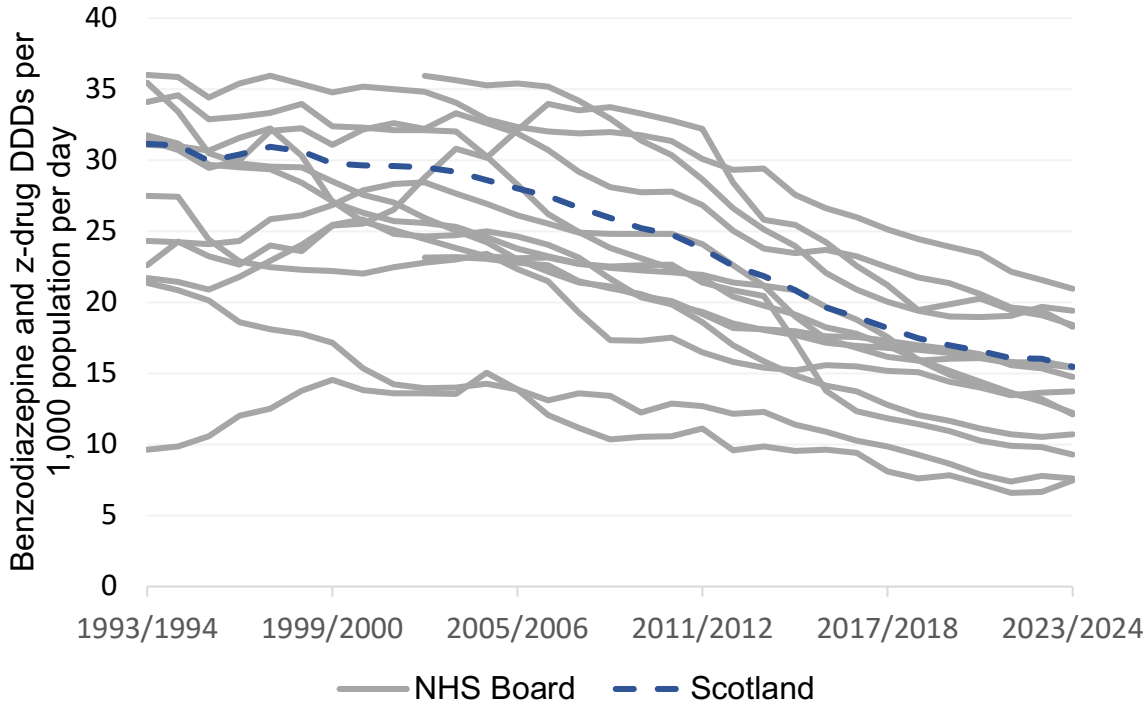


Chart 2: Proportion of adults prescribed a benzodiazepine or z-drug (B-Z) for 8 weeks or less, or longer than 8 weeks, by NHS board, Scotland 2023/24

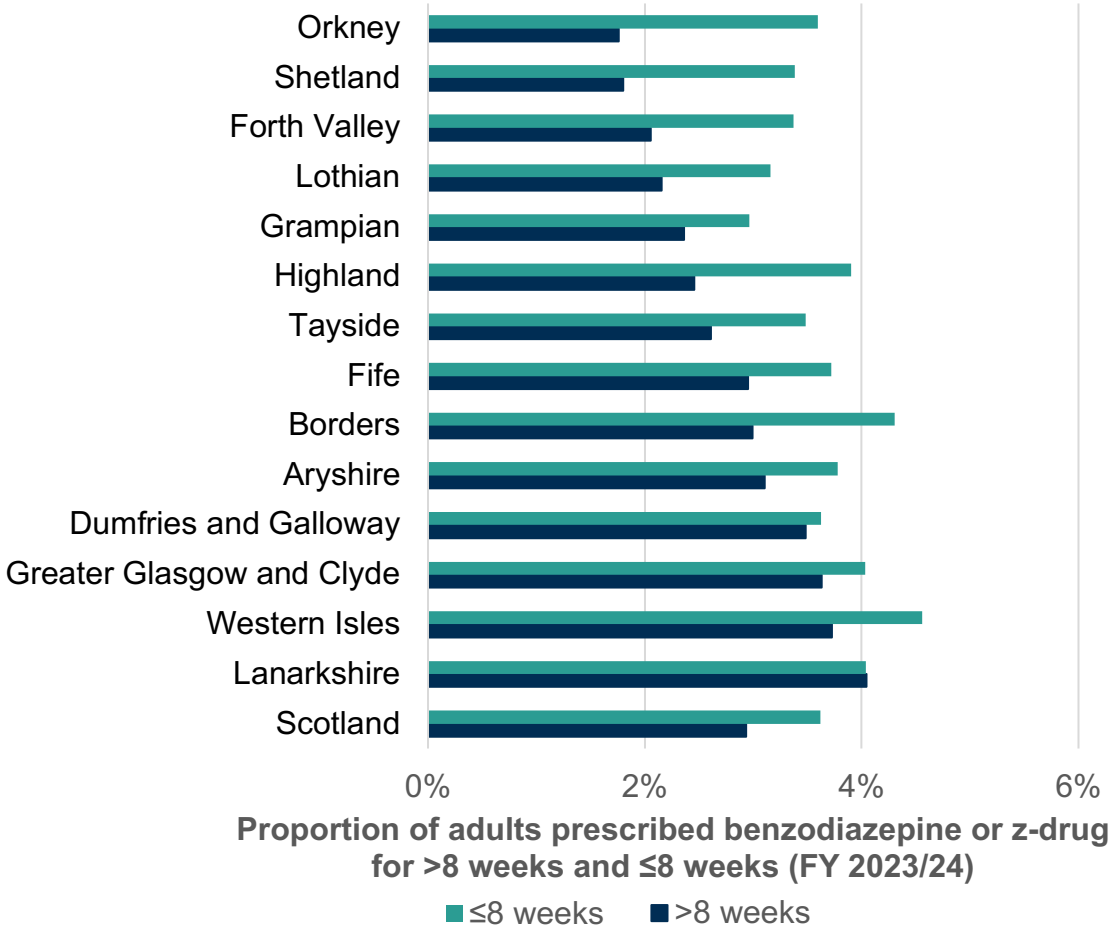
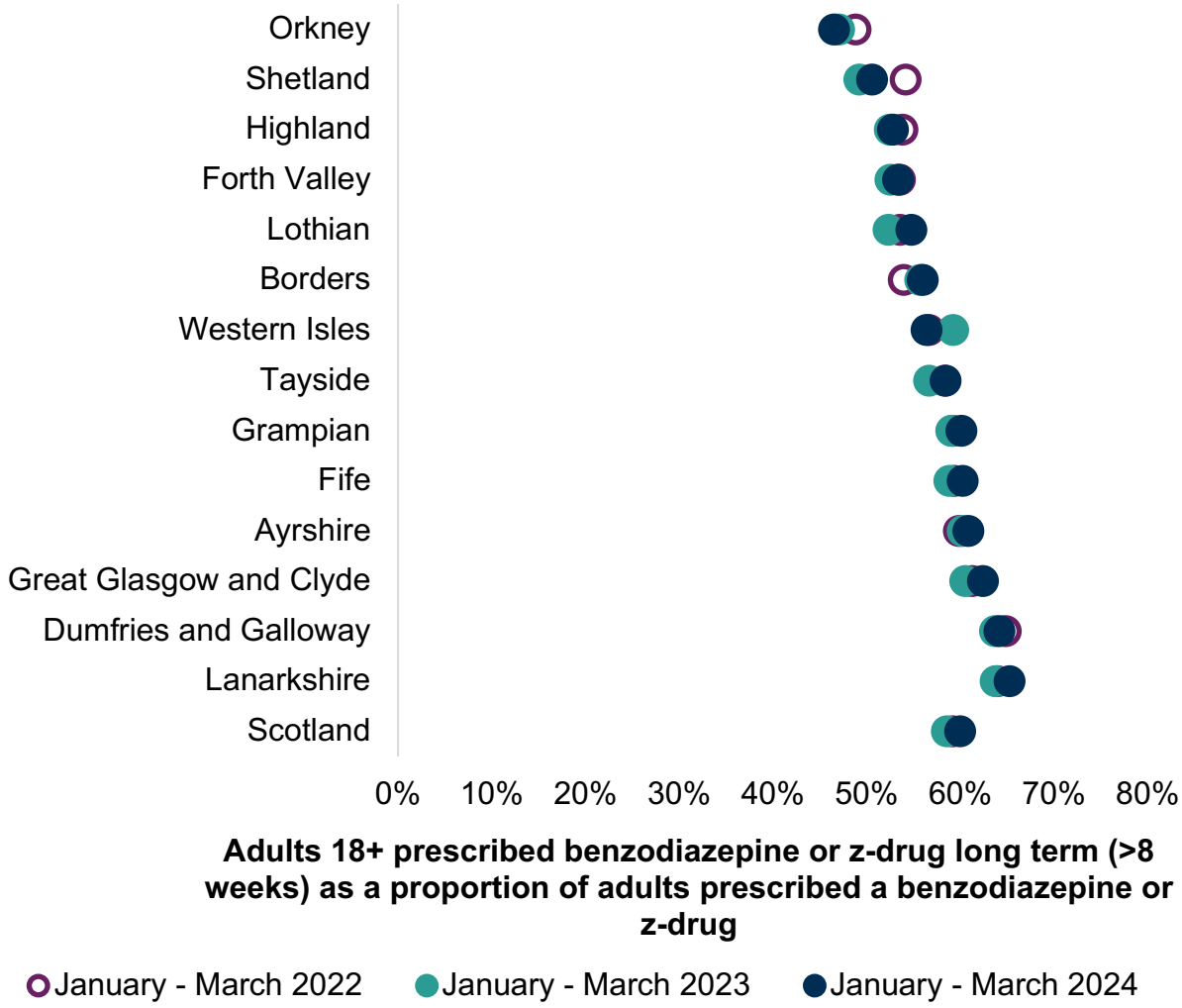


Chart 3: Adults prescribed a benzodiazepine or z-drug (B-Z) long-term (>8 weeks) as a proportion of adults prescribed a B-Z



Environmental impact

The healthcare industry is increasingly asked to account for the negative environmental impact generated through providing medical care.

In Scotland, every 10 days a 10-tonne truck of medicines waste is transported for incineration. There are associated costs with incineration; travel costs and environment impact (see Figure 3 below). This is in addition to the direct costs of unused medication.

Figure 3: Annual cost of managing medicines waste in Scotland

There are many factors which contribute to medicines waste and a Department of Health and Social Care report in September 2021[39] showed that over prescribing is commonplace, accounting for at least 10% of all prescribed medications.

This guidance supports reducing inappropriate prescribing by recommending person-centred medicine reviews; providing guidance and support for clinicians and promoting the use of non-pharmacological alternatives where available and effective. This may involve physical and social activities, lifestyle change and regular medicine reviews for those with long-term health conditions.

The Royal Pharmaceutical Society policy, 'Pharmacy's role in climate action and sustainable healthcare',[40] identifies medicines as contributing 25% of carbon emissions in the NHS.

This can be reduced by:

- improving prescribing and medicines use
- tackling medicines waste
- preventing ill health; and
- improving infrastructure and ways of working.

The Royal College of General Practitioners[41] has identified that prescribing accounts for over 60% of general practice's carbon footprint.

Reduction of medicines waste can be achieved by ensuring appropriate prescribing and initiation of medicines, regular person-centred medication reviews to ensure continued effectiveness and deprescribing medicines where appropriate using the 7-Steps process.

Reducing waste from medicines has a double carbon and environmental benefit by:

- reducing upstream emissions, e.g. those associated with distribution, and
- downstream emissions, where fewer medicines need to be disposed of.

Medicines that are disposed of in general waste, poured down the sink or flushed down the toilet, increase the risk of environmental harm. Residues from medicines which are unused, not properly disposed of, or from those that pass through the body, can be found in water, soil and sludge and in organisms at all stages of their lifecycles.[42]

Unused or unwanted medicines should be returned to community pharmacy for safe disposal or recycling where available.

The Sustainable Markets Initiative (SMI) established in 2020 identify seven levers to reduce carbon emissions in care pathways:[43]

1. Decarbonising facilities and fleets
2. Preventing disease onset
3. Diagnosing early
4. Optimising disease management
5. Improving the efficiency of interventions
6. Delivering care remotely or closer to home when appropriate – digital innovations
7. Using lower-emission treatments where available

Pharmaceuticals in the water environment

The Royal Pharmaceutical Society's Sustainability Policies[40] also point to the occurrence of pharmaceuticals in the water environment. Every oral dose of a medicine taken is excreted unchanged or converted to a metabolite with 30-100% entering our wastewater system which cannot effectively remove all traces. The occurrence of pharmaceuticals in the environment is of global concern and the

extent of the risks and impacts on human health and biota is growing. There is already evidence that they can affect aquatic wildlife, increase microbial resistance and enter the human food chain.

Benzodiazepines are not fully metabolised by the human body and are excreted into wastewater systems.[44] They fail to degrade quickly in surface waters (i.e. rivers) and their persistent nature can have a negative impact on aquatic ecosystems and wildlife. Benzodiazepines can alter the social behaviour and feeding rates of certain species of European freshwater fish,[45,46] and Diazepam can decrease the growth rate of some invertebrates and increase mortality rates of fish species, even at low environmental levels.[47,48] Oxazepam has also shown to alter the reproductive ability of European species of freshwater snails.[44]

While the direct impacts of pharmaceuticals in the environment through consumption of plant-derived food, meat, and drinking water is predicted to have negligible to low risk on human health, its chronic effects should be taken into consideration, as pharmaceutical substances have the potential to accumulate in plants and soil invertebrates.[49,50,51]

Reduction of medicines waste and harm can be achieved by ensuring appropriate prescribing and effective use of medicines, regular person-centred medication reviews and deprescribing where this is appropriate.

2. Recommendations and guidance for healthcare professionals

Health Care professionals should:

Consider non-pharmacological options, including psychosocial and/or psychological interventions where appropriate

Non-medicalised[52,53,54]

- exercise and regular physical activity e.g. 30-minute walks
- debt advice and/or money management e.g. seeking advice from appropriate agencies such as Citizens Advice
- hobbies and interests e.g. gardening, crafts, etc
- ensuring a good work-life balance
- lunch clubs and other activities which may help to reduce social isolation
- discussing problems, where appropriate, with a close friend or confidante that is willing and able to listen

Psychosocial and psychological Interventions

The Psychological Therapies Matrix (2015) outlines a matched care approach to support the safe and effective delivery of evidence-based psychological interventions. Both the Matrix and clinical guidelines advocating decisions regarding psychological interventions should be based on a comprehensive assessment of need and consider suitability, individual preference, availability of trained practitioners and be culturally appropriate.[15,58,59] This matched care model considers 'high volume' interventions and low intensity interventions for mild to moderate symptoms.

For those presenting with more complex presentations, high intensity and highly specialist interventions, delivered by practitioners with additional competences and access to appropriate supervision are outlined. The Matrix acknowledges those in general practice and primary care regularly identify and support those presenting with psychological issues and mental health disorders and are therefore in a position to provide support for low intensity interventions and referral to specialist mental health services where indicated.

A range of activities can be helpful for people with common mental health and pain conditions. Decisions for signposting and/or referral for psychological interventions should be informed by a comprehensive assessment and shared understanding of the reasons for the underlying anxiety and/or sleep problem.

Some of the following may be useful for people with anxiety and should be considered and discussed before initiating a B-Z for a severe crisis, or continuing a B-Z. Where appropriate and available Community Link Workers may be able to support and enable individuals to access some of these options.

Low Intensity Interventions

Low intensity interventions for mild to moderate symptoms of insomnia or anxiety include guided self-help and computerised Cognitive Behavioural Therapy (cCBT).[55] Psychoeducation regarding the specific condition (anxiety, insomnia) can support self-management. A range of evidence-based cCBT programmes and telephone supports are available to support general mental wellbeing, sleep problems (including insomnia) and mild to moderate symptoms of anxiety. These programmes can be accessed via NHS Inform (Mental Health). Please refer to Appendix 2 for a detailed description and resource links. NICE provide additional recommendations on sleep hygiene for insomnia.[56]

High Intensity and Highly Specialist interventions

For individuals who present with moderate to severe symptoms of anxiety and more complex presentations, including within the context of co-occurring substance use, a referral for High Intensity or Highly Specialist Interventions (including Cognitive Behaviour Therapy (CBT) is indicated. These interventions are usually delivered within NHS, or non-NHS, secondary care or specialist services.

(Non-NHS services: ensure any non-NHS practitioners providing psychological therapies are registered with appropriate professional bodies e.g. Health and Care Professions Council, British Association of Behavioural and Cognitive Psychotherapy, British Association of Counselling and Psychotherapy.)

Follow a person-centred approach to initiating and limiting B-Z supply:

In order to provide consistency and continuity for all individuals, prescribers should develop a benzodiazepine prescribing policy for use in their setting. A holistic assessment that includes a discussion of the risks, benefits and limitations of prescribing should inform decisions to initiate B-Z, independent of what condition is being treated. Please consider the following:

Assess risk, benefits and limitations, independent of what condition is being treated, see List 1 above.

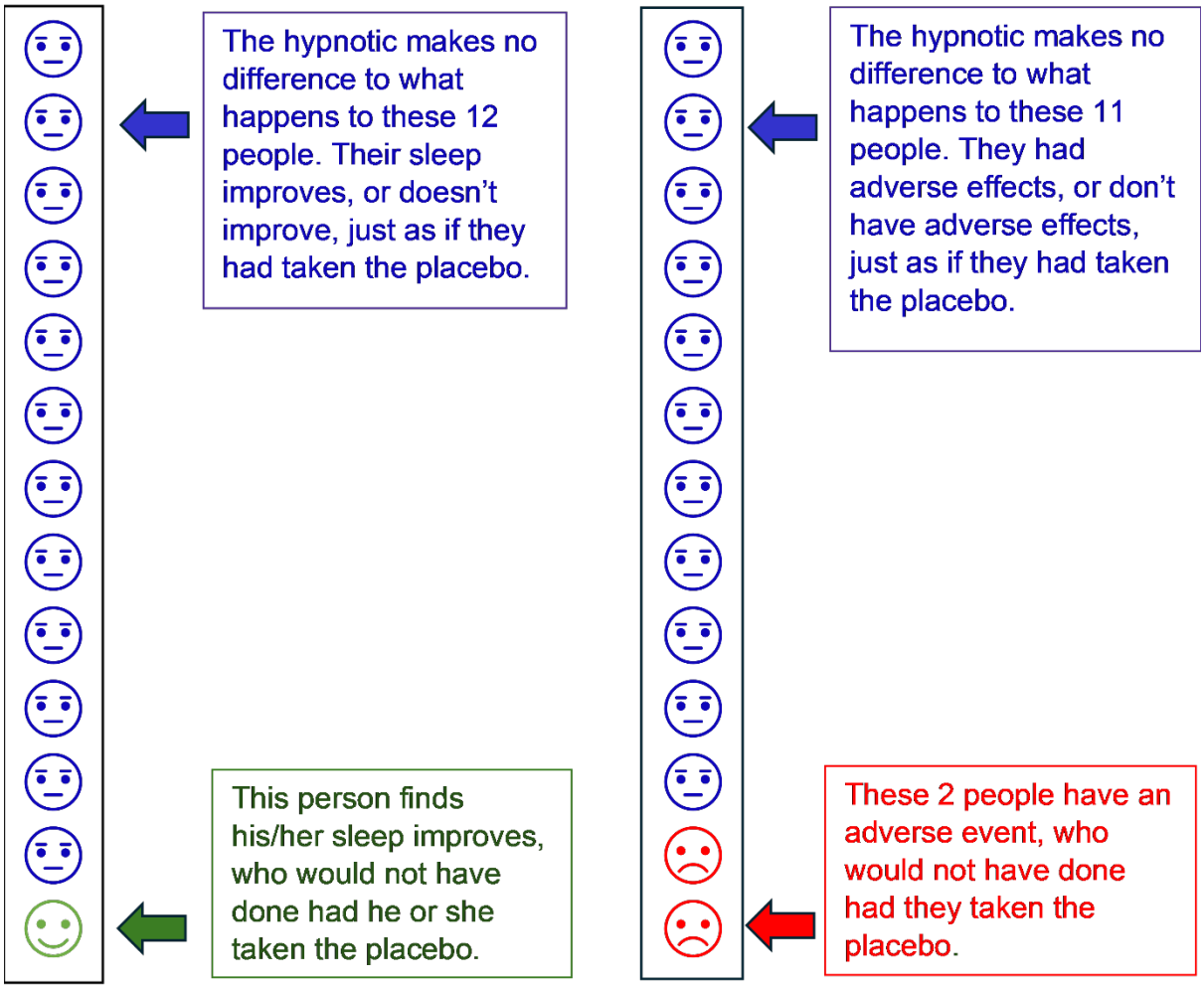
Table 1: Evidence summary for use of B-Z by condition

Condition	Evidence summary
Insomnia	The majority of studies have been for treatment of seven days or less of therapy. The effects were small, with an increased risk of adverse effects; the number needed to treat for improved sleep quality was 13 and the number needed to harm for any adverse event was 6, Figure 4.[57] Adverse events were defined as cognitive (memory loss, confusion, disorientation); psychomotor (reports of dizziness, loss of balance, or falls); and morning hangover effects (residual morning sedation).
Anxiety disorders	Benzodiazepines are not recommended for the routine treatment of general anxiety disorder (GAD), panic disorder, post-traumatic stress disorder (PTSD) or panic disorder.[14,15,58] A stepped-care approach including psychological treatment and/or self-help is advised. Pharmacological treatment, if assessed as being appropriate, should be with a selective serotonin re-uptake inhibitor e.g. GAD: step 3 where there is marked functional impairment, or that has not improved after step 2.[14,15,58]
Depression	B-Z are not recommended for the treatment of depression[59] or the treatment of general anxiety disorder.[15] It is known that regular B-Z use is associated with reducing the effectiveness of psychological therapies (interfering with new memory formation), worsening depressive symptoms, and cognitive dysfunction which may prolong symptoms and slow recovery.[12,20,22] It is advised that co-prescribing B-Z with antidepressants should be avoided wherever possible. A recent Cochrane Review indicated that the evidence for benefit was marginal and there was no difference in dropouts due to any reason, between combined therapy (antidepressant plus B-Z) and antidepressants alone in the first two weeks of treatment.[60]
Low back pain and sciatica	NICE recommends 'do not offer gabapentinoids, other antiepileptics, oral corticosteroids or benzodiazepines for management of sciatica, as there is no overall evidence of benefit and there is evidence of harm'.[24]
Chronic pain	NICE recommends 'do not initiate benzodiazepines to manage chronic primary pain in people aged 16 years and over'.[61]

Note: short-term use one to two weeks.

- **Discuss** individual and prescriber expectations before initiation of new prescribing. Review medication using the 7-Steps process. Consider stepped-care and watchful-waiting for common mental health conditions. Highlight effective non-pharmacological interventions where appropriate (e.g. physical activity, self-help). Outline drug limitations e.g. marginal effects during crises but adverse effects are common.
- **Provide** appropriate information about the condition (NHS Inform website), B-Z treatment and stopping. The Choice and Medications website contains a variety of information and leaflets which may be helpful.
- **Plan and agree follow-up** in relation to the condition being treated.
- **Review effectiveness, tolerability and adherence** on an ongoing basis, and where appropriate reduce the number and doses of medicines to minimise avoidable adverse effects and optimise adherence.

Figure 4: Numbers needed to treat and harm



Note: Population: adults (≥60 years old) prescribed a benzodiazepine or z-drug for insomnia; 18 (75%) of studies meeting inclusion criteria were for ≤14 days of treatment.[57]

Collaboratively develop a clear management plan with the individual, and/or carer(s) if appropriate

Aim to develop mutually supportive and constructive discussions between individuals and prescribers when reviewing B-Z and their ongoing need. Where appropriate consider the fears and apprehensions associated with reducing/stopping B-Z and tailoring treatment to the individual's needs. Where there may be health literacy issues, ensure that enough time is given for the consultation.

A stepped-care approach should be considered to tailor the most appropriate intervention to the individual's needs such as self-help, non-pharmacological with or without pharmacological treatments.

Discuss realistic expectations and set review dates which can be coded for recall and follow-up.

Consider risk of cumulative toxicity in relation to co-prescribed medicines**.** See Chart 4 below or in the Polypharmacy Guidance.[3]

Chart 4: Cumulative toxicity tool

BNF Chapter	ADR / Medication	F	C	UR	CNS	B	HF	Br	CV	R	H	RI	Hypo	Hyp	SS	ACG
1	H2 Blocker	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-
	Laxatives	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-
	Loperamide	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
	Prochlorperazine etc [a]	Y	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	Y
	Metoclopramide	Y	-	-	Y	-	-	Y	Y	-	-	-	-	-	-	-
2	ACE/ARB	Y	Y	-	-	-	-	-	Y	Y	-	Y	-	Y	-	-
	Thiazide diuretics	Y	Y	-	Y	-	-	-	-	-	-	Y	Y	-	-	-
	Loop diuretics	Y	Y	-	-	-	-	-	Y	-	-	Y	Y	-	-	-
	Amiloride[f]/ triamterene	Y	Y	-	Y	Y	-	-	-	Y	-	Y	-	Y	-	Y
	Spironolactone	Y	-	-	Y	-	-	-	-	-	-	Y	-	Y	-	-
	Beta-blocker	Y	Y	-	-	-	Y	Y	-	Y	-	-	-	-	-	-
	CCB (dihydropyridine)	Y	Y	-	Y	-	-	-	Y	Y	-	-	-	-	-	-
	CCB (verapamil/ diltiazem)	Y	Y	-	-	-	Y	Y	Y	-	-	-	-	-	-	-
	Nitrates and nicorandil	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Digoxin	Y	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-
3	Theophylline	-	-	-	-	-	-	-	Y	-	-	-	Y	-	-	-
	Oral steroids	Y	-	-	Y	Y	Y	-	-	-	-	-	Y	-	-	Y
4	Opiates	Y	Y	Y	Y	-	-	-	-	Y	-	-	-	-	Y	-
	Benzodiazepines	Y		Y	Y	-	-	-	-	Y	-	-	-	-	-	-
	zSedative antihistamines[d]	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
	H1 Blockers	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
	Antipsychotics[e]	Y	Y	Y	Y	-	-	-	Y	-	-	-	-	-	-	-
	SSRI and related	-	-	Y	Y	Y	-	-	Y	-	-	-	-	-	Y	-
	TCAs[c]	Y	Y	Y	Y	-	Y	-	Y	-	Y	-	-	-	Y	Y
	MAO inhibitors	-	Y	Y	Y	-	-	Y	Y	-	-	-	-	-	Y	Y
5	Antibiotics/ Antifungals	-	-	-	-	-	Y	-	-	-	-	Y	-	Y	-	-
6	Sulfonylureas, gliptins, glinides	Y	Y	-	-	-	-	-	-		Y	-	-	-	-	-
	Pioglitazone	Y	-	-	-	-	Y	-	-	Y	Y	-	-	-	-	-
7	Urinary antispasmodics	Y	Y	Y	Y	-	-	-	Y	-	Y	-	-	-	-	Y
	Dosulepin[b]	Y	Y	Y	Y	-	-	-	Y	-	Y	-	-	-	-	Y
	Alpha blocker	Y	-	-	Y	-	-	-	Y	Y	-	-	-	-	-	-
10	NSAIDs	-	-	-	-	Y	-	-	Y	Y	-	Y	-	-	-	-

Key: F - Falls and fractures; C – Constipation; UR - Urinary retention; CNS – CNS Depression; B – Bleeding; HF - Heart failure; Br – Bradycardia; CV - CV events; R – Respiratory; H – Hypoglycaemia; RI - Renal injury; Hypo – Hypokalaemia; Hype – Hyperkalaemia; SS - Serotonin syndrome; ACG – Angle Closure Angle Glaucoma

a. strong anticholinergics are: dimenhydrinate, scopolamine, dicyclomine, hyoscyamine, propantheline;
b. strong anticholinergics are: tolterodine, oxybutynin, flavoxate;
c. strong anticholinergics are: amitriptyline, desipramine, doxepine, imipramine, nortriptyline, trimipramine, protriptyline;
d. strong anticholinergics are: promethazine;
e. strong anticholinergics are: diphenhydramine, clemastine, chlorphenamine, hydroxyzine.
f. Amiloride side effect frequency unknown

Ensure individuals are assessed and coded in primary care for the condition being treated

Appropriately coding of individuals' records may enable and support proactive medication reviews and follow-up in the short- and long-term in primary and secondary care, as prescribers have indicated that:

> '...patients can get lost in the system, and that systems which adequately prompt [psychotropic] medication reviews would be useful in broaching discontinuation with patients.'[38]

Although current guidelines do not recommend the routine use of B-Z for the treatment or management of anxiety disorders,[15,58,59] appropriate coding of an individual's electronic clinical records may help to identify people for review and routine follow-up. For example, using Read Coding:

- Anxiety disorder such as GAD (E2002), post-traumatic stress disorder (PTSD, Eu431)
- For a polypharmacy review, if reviewing existing treatment prior to initiation of B-Z medicines, use read code 8B31B Polypharmacy medication review.
- Where the condition has resolved and the B-Z has been stopped, please use the appropriate Read Code e.g. anxiety resolved (2126J). (Other Read Codes for resolution of symptoms are not currently available on general practice systems)

Boards and HSCPs should:

Consider the prescribing advice within this document alongside local prescribing and clinical data; positions and trends, to plan, resource and drive quality improvement and prescribing initiatives.

Nominate local leads/champions – one medical and one within, or with strong links to, medicines management teams or equivalent – to drive delivery and recommendations within this document.

Consider and engage a whole system approach to delivering quality improvements in prescribing:

- **Ensure primary and secondary care are informed**, to support continuity of care and overall goals of reviewing and minimising inappropriate prescribing. Recognise the significant influence of secondary care in prescribing behaviour. HSCPs should consider locality work targeting B-Z prescribing.
- **Work with third sector (non-medicalised) organisations** to further develop and support the capacity for self-management.
- **Develop capacity to support individuals and services.**

Hospitals

Where B-Z cannot be stopped before discharge, secondary care should establish and communicate a reduction plan for B-Z prescriptions started in hospital.

Where appropriate, hospitals should develop and implement a ‘no hypnotic on discharge policy’ for B-Z initiated in hospital.

Care homes

Individuals within care homes should be identified for proactive review to ensure that any B-Z medicines prescribed have an appropriate indication and are prescribed at the lowest therapeutic dose to achieve the desired effect and reduce the risk of harm. Sleep disturbance affects 38% of care home residents living with dementia,[62] who are often treated with medication where non-pharmacological interventions may be safer and effective.[63,64] Despite the challenges to implementation of non-pharmacological interventions, these should be considered as alternatives to prescribing in care homes where appropriate.

General practice clusters

Engage with local prescribing support teams, who have a wealth of experience improving the quality of prescribing through use of local and national measures, datasets and tools.

Consider developing and implementing general practice or cluster policies, that include key principles (see Appendix 6). This may help to reduce ‘doctor shopping’ within localities as all practices will be applying the same policy.

3. Which groups of people should be targeted for review?

A multidisciplinary whole system approach, including reception staff, pharmacy teams, practice nurses and GPs, should be used to identify people for review.

List 2: Groups of people that receive B-Z who could be prioritised for a proactive medicines review

- People recently discharged from hospital on new B-Z
- People receiving long-term (≥8 weeks) treatment
- Older adults (≥65 years)
    - Care home residents
    - People with dementia and/or receiving other medicines that may cause cognitive dysfunction e.g. anticholinergic medicines
    - People receiving polypharmacy
    - Higher risk of falls
- People receiving B-Z and opioids e.g. oxycodone, morphine, tramadol etc.
- People receiving other psychotropic medicines e.g. antidepressants, antipsychotics, gabapentinoids etc.
- People receiving high dose B-Z combinations: >30mg per day diazepam equivalent
- People receiving diazepam 10mg tablets – 'blues'
- People who report/present with street/non-prescribed B-Z use

People recently discharged from hospital

Some people may be initiated on B-Z in hospital as part of crises management in line with guidelines, however others may be initiated on such medicines due to environmental factors which cause insomnia e.g. busy noisy wards. Studies relating to psychiatric admission have shown that up to one in three individuals are discharged on a B-Z, with one in five continuing long-term treatment for 12 months.[7,65,66] Proactively reviewing and stopping B-Z therefore, should be considered to reduce avoidable medication related harms.[12,17,67] Where appropriate, hospitals should establish and communicate a reduction plan for all B-Z prescriptions initiated in hospital or develop a 'no hypnotic on discharge policy'.

People receiving long-term treatment (≥8weeks)

B-Z are only licensed for 28 days maximum use. Most studies are for short-term use (e.g. 7-14 days or less)[13,57] and guidelines only recommend their use for management of short-term crises.[14,15,58,59]

A very small minority of people may be considered appropriate for longer-term (≥8weeks) treatment e.g., some people with Parkinson's disease or multiple sclerosis, or as part of harm reduction strategies.[9,10] However, long-term use is inappropriate for the large majority of people.

Older adults or frail people: avoidable adverse drug events/harms and polypharmacy

It is known that up to one in eight older adults in Scotland receive one or more B-Z prescriptions annually, and care home residents are twice as likely to receive these medicines than non-care home residents.[10]

Older adults and frail people are more susceptible to the adverse effects and harms of B-Z: cognitive dysfunction (i.e. confusion, impaired concentration, memory impairment, impaired ability to drive and increased accidents); falls, and associated increased risk of hip fractures; depressive symptoms; and paradoxical effects i.e. disinhibition, anxiety and impulsivity.[12,16] They may also experience liver impairment or reduced kidney function which can reduce B-Z excretion, increasing the risk of adverse effects.[68,69] Proactively reviewing, reducing and stopping B-Z will help to reduce avoidable B-Z-related harms.[70,71]

People receiving combination treatment

Prescribers should consider the 'benzo-burden' – the total benzodiazepine-type medicine load prescribed per day – as benzodiazepines, z-drugs and gabapentinoids provide synergistic effects such as sedation and respiratory depression.[13] All may interact with the individual's conditions to cause more adverse effects and avoidable drug-related harms e.g. increased breathlessness, fatigue, respiratory depression, which can be potentially fatal.

Opioids

The effects of B-Z and the 'benzo-burden' can be further exacerbated by the addition of a range of opioids, and even reduce the protective ceiling effects of buprenorphine.[72] In line with the Medicines and Healthcare products Regulatory Agency advice, only prescribe B-Z and opioids together if there is no alternative and closely monitor individuals for signs of respiratory depression.

Non-prescribed B-Z

People who report street/non-prescribed B-Z use, often within the context of polysubstance use, are arguably at greatest risk of combination effects. To respond to what is recognised as a public health crisis, recent guidance, including key principles of care, are outlined in the Scottish Drug Deaths Taskforce and Public

Health Scotland's Medication Assisted Treatment (MAT) standards informed response for benzodiazepine harm reduction.[73]

The MAT standards highlight that we all have a responsibility to respond to B-Z-related harms which is underpinned by a willingness to have supportive, collaborative conversations regarding B-Z. This guidance supports a comprehensive, holistic assessment of need, to inform highly intensive, flexible and individualised care plans. This may include prescribing interventions (e.g. a small minority of individuals may require longer-term B-Z treatment to optimise care and minimise street B-Z use). This is in addition to psychological components of care to support harm reduction and stabilisation.

Again for this patient group, the 7-Steps process should be used to determine the appropriateness of prescribing medication and to minimise harm. This allows consideration of the risks and benefits of treatment, in particular at point of initiation.

Antidepressants

B-Z use is associated with the use of selective serotonin re-uptake inhibitors (SSRIs), and the use of higher SSRI doses for the treatment of depression.[74,75] In part this may be due to higher SSRI doses causing more avoidable adverse effects such as anxiety, agitation and insomnia.[76,77,78] However, B-Z are also associated with an increased incidence of depressive symptoms.[20,21] Therefore, person-centred review and reducing B-Z using the 7-Steps process may help to optimise care and recovery.

Antipsychotics

B-Z use is associated with a higher mortality risk for people with schizophrenia.[18] Although some have argued that B-Z provide antipsychotic sparing effects,[79] this is not supported by current evidence.[80]

Psychological therapies

B-Z may limit the efficacy of psychological therapies such as CBT due to negative effects on cognitive function; impairing memory function and amnesia.[22]

High dose combination B-Z use

As highlighted above the use of more than one B-Z will increase the 'benzo-burden' and provide synergistic effects which may lead to avoidable adverse effects and harms. Minimising the use of such combinations and high doses of B-Z will help to minimise adverse drug effects, see Reduction schedules. It is important to consider if benzodiazepines are being bought alongside those that are being prescribed.

Diazepam 10mg tablets

Historically these have enabled people to take higher doses with fewer tablets and have been desirable for those using substances illicitly.[19] Due in part to these issues, where diazepam is required, multiples of 2mg tablets should be prescribed as the preferred choice.[81]

Potential exclusions and cautions

It has already been acknowledged that a small minority of individuals may require long-term treatment. However, it would be good practice to routinely review ongoing need, e.g. as part of their routine annual medicines review.

It may be appropriate to consider excluding some people from proactive B-Z reduction reviews for example, in palliative care, people under the care of drug treatment services or those with intractable epilepsy. However, closer working with specialist services may in some cases support the appropriate use and reduction of B-Z, such as linking with community mental health teams to minimise B-Z use in people with schizophrenia, where there is an association with increased mortality risk.[67] For those presenting at greatest risk of harm from street B-Z use, both psychosocial and prescribing interventions may support harm reduction and establish stability with regular monitoring and review.[82]

4. The 7-Steps medication review

The 7-Steps person-centred medication review process can be used at both initiation of medication and when reviewing existing treatments. This process ensures a shared decision-making approach to prescribing, with discussion of risks and benefits of treatments, to enable safe, sustainable and effective person-centred care.

Steps	Process	Person specific issues to address
1. **Aims** What matters to the individual about their condition(s)?	**Review diagnoses and consider:** • Therapeutic objectives of drug therapy • Management of existing health problems. • Prevention of future health issues, including lifestyle advice **Ask person to complete PROMs** (questions to prepare for my review) **before their review**	• Ensure a person-centred approach • Consider non-pharmacological options where appropriate • Consider if vulnerable or at risk of dependency
2. **Need** Identify essential drug therapy	**Identify essential drugs (not to be stopped without specialist advice)** • Medicines that have essential replacement functions (e.g. levothyroxine) • Medicines to prevent rapid symptomatic decline (e.g. drugs for Parkinson's disease, heart failure)	• Benzodiazepines and z-drugs used for anxiety or insomnia are not regarded as essential. They are only indicated for a maximum of two to four weeks • If prescribed for long-term use consider potential of withdrawal reaction and provide support for reduction and stopping

3. Does the individual take unnecessary drug therapy?	**Identify and review the continued need for drugs** • what is medication for? • with temporary indications • with higher than usual maintenance doses • with limited benefit/evidence for use • with limited benefit in the person under review (see Drug efficacy & applicability (NNT) table)	• Not indicated for long-term use • Consider the potential for harm (low numbers for NNH)
4. **Effectiveness** Are therapeutic objectives being achieved?	**Identify the need for adding/intensifying drug therapy to achieve therapeutic objectives** • to achieve symptom control • to achieve biochemical/clinical targets • to prevent disease progression/exacerbation • is there a more appropriate medication to achieve goals?	• Can treatment be supported with non-pharmacological or psychological therapies where appropriate (such as sleep hygiene, CBT/cCBT resources)? • Are alternative medicines more suitable for longer term management?

5. **Safety** Does the individual have or is at risk of ADR/ Side effects? Does the person know what to do if they're ill?	**Identify individual safety risks by checking for** • appropriate individual targets e.g. HbA1c, BP • drug-disease interactions • drug-drug interactions (see ADR table) monitoring mechanisms for high-risk drugs • risk of accidental overdosing **Identify adverse drug effects by checking for** • specific symptoms/laboratory markers (e.g. hypokalaemia) • cumulative adverse drug effects (see ADR table) • drugs used to treat side effects caused by other drugs **Medication Sick Day guidance**	• Consider risk of ADRs such as drowsiness, falls, memory impairment • If treatment has been taken for long periods of time gradually taper to avoid withdrawal reactions. Abrupt cessation may produce confusion, toxic psychosis, convulsions or a condition resembling delirium tremors • Consider if vulnerable or at risk of dependency
6. **Sustainability** Is drug therapy cost-effective and environmentally sustainable?	**Identify unnecessarily costly drug therapy by** • considering more cost-effective alternatives, safety, convenience **Consider the environmental impact of** • inhaler use • single use plastics • medicines waste • water pollution	• Check that all medicines are formulary choices • Advise to only order what is needed, do not stockpile medicines • Advise not to dispose of in household rubbish or in water waste. Promote safe disposal of medicines via community pharmacy
7. **Person-centredness** Is the person willing and able to take drug therapy as intended?	**Does the person understand the outcomes of the review?** • Consider Teach back **Ensure drug therapy changes are tailored to individual's preferences. Consider** • is the medication in a form they can take?	**Agreed plan** • Consider alternatives to prescribing where appropriate • If the benzodiazepine or z-drug is to be stopped/ reduced then consider and agree reduction schedule with individual and set achievable goals

	• is the dosing schedule convenient? • what assistance is needed? • are they able to take medicines as intended? **Agree and communicate plan** • discuss and agree with the individual/carer/welfare proxy therapeutic objectives and treatment priorities • include lifestyle and holistic management goals • inform relevant health and social care providers of changes in treatments across the transitions of care **Ask person to complete the post-review PROMs questions after their review**	• Ensure awareness of potential for dependence or withdrawal effects, when to seek help and what actions to take • Utilise available self help resources (e.g. NHS inform)

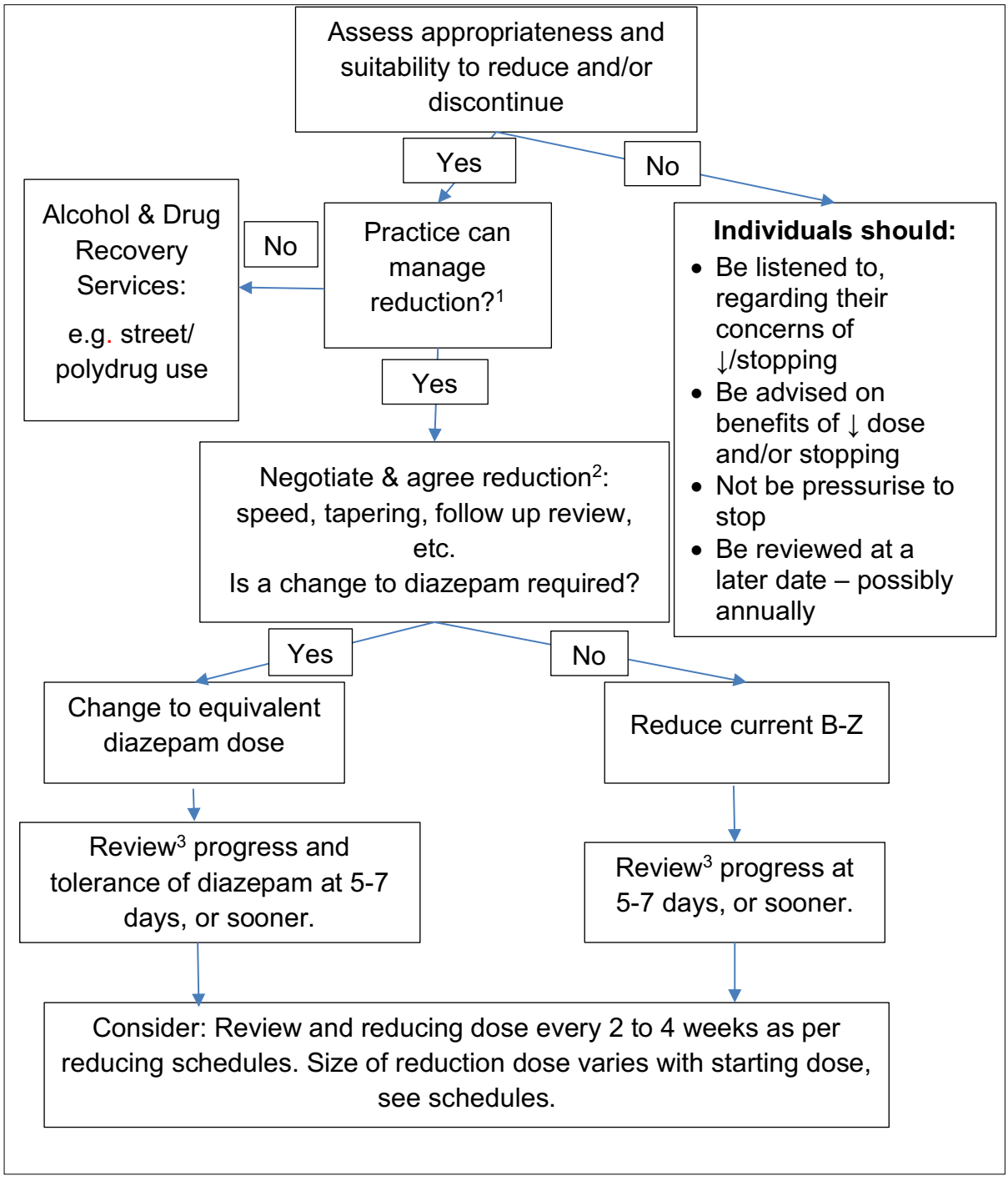
Key concepts in this case

- Consider the use of PROMs and individualised dosing/reduction schedules
- Ensure use of shared decision-making tools during person-centred reviews
- Awareness of potential for dependency or withdrawal effects with B-Z medicines
- Consider non-pharmacological approaches where appropriate (e.g. sleep hygiene, CBT)

5. Reducing and stopping

This should be done in partnership with the individual.

Figure 5: Assessing suitability to reduce and discontinue B-Z drugs



1. From previous work, general practices should be able to manage the reduction of prescribed B-Z for the majority of their practice population, see Section 6 case studies.[34,37]

2. A gradual drug withdrawal schedule (dose tapering) that is flexible should be negotiated. The individual reducing/stopping treatment should guide adjustments so that they remain comfortable with the withdrawal.
3. Reviews should be frequent to detect and manage problems early and to provide advice and encouragement during and after the drug withdrawal. If a person is not successful on their first attempt, they should be encouraged to try again.

The following narrative explains the flow chart in more detail.

Assess the individual's readiness to reduce and/or stop

It is important that an individual's motivation and readiness for reductions and/or discontinuation is adequately assessed, and where appropriate agreed and tailored dose reductions are planned, and where implemented, regularly reviewed. Signposting or referral for interventions to support changes to prescribing, including psychosocial and/or psychological interventions, should also be considered.

What is the risk-benefit balance of continuing current B-Z and doses?

Continuing to prescribe beyond four weeks is unlicensed. The risk of falls for older adults, or negative cognitive effects for people with depression or other common mental health considerations, as well as the tolerance and loss of effect that can develop within two to four weeks in the treatment of insomnia/anxiety should be acknowledged in any risk-benefit discussions.[69] Prescribers may also consider that on balance some therapies may not benefit individuals and should explain their reasons to the individual and explore other options that might be available, including their right to seek a second opinion.[83]

Has the individual completed the planned and agreed course or trial of treatment?

For example, was the B-Z initiated for short-term use and has evolved into long-term use? Has a prescriber discussed the potential harms of continuing treatment and that B-Z are only licensed for maximum of four weeks' use, and therefore it may be appropriate to plan and agree gradual reduction in therapy?

Discontinuation/withdrawal symptoms

B-Z dependence is recognised as a major clinical problem.[84] B-Z reduction should be gradual and tapered – for some this will be 'low and slow reductions'.[69,85] Abrupt cessation may produce confusion, toxic psychosis, convulsions or a condition resembling delirium tremors.

Withdrawal symptoms may occur within a day of stopping a short-acting B-Z such as lorazepam, which is associated with more severe withdrawal than longer acting B-Z. However, withdrawal symptoms may occur at any time up to three weeks after stopping a long-acting B-Z (see List 3 and Table 3).[69]

Withdrawal effects may include insomnia, anxiety, depression, cognitive impairment and can be similar to the original presentation. Some withdrawal symptoms may continue for weeks or months after stopping the medication. Most people experience infrequent, mild or no withdrawal symptoms if the withdrawal is slow and tapered to their needs. However, if individuals do experience withdrawal, consider increasing the dose back up to the previous dose without withdrawal effects and after stabilising on that dose reduce more slowly, using smaller dose reduction steps. Smaller reduction steps may require the use of liquid preparations in some cases.[69,84]

List 3: Clinical presentation of discontinuation/withdrawal symptoms

Acute symptoms - most commonly anxiety

- Panic attacks, agoraphobia
- Insomnia, nightmares
- Depression
- Poor memory, loss of concentration
- Tremor, sweating, palpitations

Acute symptoms - others specific to B-Z

- Perceptual distortions, depersonalisation
- Tingling and loss of sensation, formication (a feeling of ants crawling all over the skin)
- Sensory hypersensitivity
- Muscle twitches and fasciculations (flickering or writhing muscles)
- Hallucinations (visual and auditory - rare and usually with rapid withdrawal from high doses)
- Psychotic symptoms, confusion, convulsions (rare and usually with rapid withdrawal from high doses)

Protracted symptoms - may affect up to 15% of people

- Anxiety - gradually recedes over a year
- Depression - may be a few months
- Insomnia - gradually recedes over 6-12 months
- Sensory symptoms - gradually recedes but may be a year and occasionally several years
- Motor symptoms - gradually recedes but may be a year and occasionally several years
- Poor memory and cognition - gradually recedes but may be a year and occasionally several years
- GI symptoms - gradually recedes but may be a year and occasionally several years

Adapted from the Ashton Manual and Maudsley Prescribing guidelines.[84]

Switching to diazepam

Diazepam is a longer acting B-Z. If alternative benzodiazepines are being taken, converting to the equivalent diazepam dose allows for smaller dose reductions steps, due to the range of licensed preparations available. Diazepam's longer acting effects are less likely to be associated with withdrawal effects; especially for people

receiving short acting B-Z and/or experiencing high levels of dependency.[68,69,86] Therefore this is the preferred method for gradual reduction.

Some individuals however may want to reduce by continuing their current B-Z. While this may be possible with nitrazepam and temazepam, due to a range of licensed preparations being available, it may be more challenging with other B-Z due to the range of tablet doses available. As a result the size of the dose reduction steps may be large - increasing the potential risk of withdrawal effects. Where individuals decide to reduce using their current B-Z, the risk-benefits should be discussed and closer follow up may be required.

Approximate dose equivalents and switching considerations:

- Due to individual variability and differing half-lives (Table 2) this means that these are approximate dose equivalents, not exact equivalence.
- Variability between individuals may be due to a range of effects e.g. liver impairment reducing/slowing drug excretion, which can increase B-Z half-lives and increase the risk of accumulation and drug effects.
- Dose equivalents can never be exact and should be interpreted considering your clinical knowledge and the individual's needs. Older adults and frail people may experience next day sedation due to the long half-life of diazepam.
- Drug interactions and drug-disease interactions should be considered.
- Dose equivalents vary between authors, they are based on clinical experience but may vary between individuals.[87]

Table 2: Approximate equivalent doses

Drug	Approximate equivalent dose	Half-life (hours) (active metabolite)
Diazepam	5mg	20 – 100 (36 – 200)
Chlordiazepoxide	12.5mg	5 – 30 (36 – 200)
Clobazam*	10mg	12-60
Clonazepam*	0.25mg (250mcg)	18 – 50
Loprazolam	0.5mg (500mcg) -1mg	6 – 12
Lorazepam	0.5mg (500mcg)	10 – 20
Lormetazepam	0.5mg (500mcg) -1mg	10 – 12
Oxazepam	10mg	4 – 15
Nitrazepam	5mg	15 – 38
Temazepam	10mg	8 – 22
Zolpidem	10mg	2
Zopiclone	7.5mg	5 – 6

Adapted from the Ashton Manual, Maudsley Prescribing guidelines, UK Medicines Information Question and Answer[69,84,87]

* Clobazam and clonazepam may be prescribed for intractable epilepsy, caution if considering reducing dose

Reduction schedules

When reducing B-Z do not prescribe other psychotropics to compensate unless a specific condition or disorder is being treated.

There are multiple tapering schedules, due to variations in medicines, doses and dose frequency, see The Ashton Manual for examples. There is also a need to tailor reductions to individual needs and preferences, such as stopping a morning dose rather than a lunch time dose. While the following reduction steps are considered appropriate, for some individuals smaller reductions may be necessary.[69,84]

Reduction dose varies with starting dose. Reduce by:

- 10mg/day every two to four weeks, down to a total daily dose of 50mg
- 5mg/day every two to four weeks, down to a total daily dose of 30mg
- 2mg/day every two to four weeks, down to a total daily dose of 20mg
- 1mg/day every two to four weeks, until stopped

Table 3: Example reduction regime for diazepam 5mg three times a day

Step	Morning (mg)	Lunch (mg)	Night (mg)	Total daily dose (mg)
Starting dose	Diazepam 5	Diazepam 5	Diazepam 5	15
Step 1	5	4	5	14
Step 2	5	3	5	13
Step 3	5	2	5	12
Step 4	5	1	5	11
Step 5	5	Stop	5	10
Step 6	4	-	5	9
Step 7	3	-	5	8
Step 8	2	-	5	7
Step 9	1	-	5	6
Step 10	Stop	-	5	5
Step 11	-	-	4	4
Step 12	-	-	3	3
Step 13	-	-	2	2
Step 14	-	-	1	1
Step 15	Stop	Stop	Stop	0

Table 4: Example reduction regime diazepam 5mg twice daily and temazepam 20mg at night

Step	Morning (mg)	Teatime (mg)	Night (mg)	Total daily dose (diazepam mg)
Starting dose	Diazepam 5	Diazepam 5	Temazepam 20	20
Step 1	Diazepam 5	Diazepam 5	Diazepam 10	20
Step 2	5	4	10	19
Step 3	5	3	10	18
Step 4	5	2	10	17
Step 5	5	1	10	16
Step 6	5	Stop	10	15
Step 7	4	-	10	14
Step 8	3	-	10	13
Step 9	2	-	10	12
Step 10	1	-	10	11
Step 11	Stop	-	10	10
Step 12	-	-	9	9
Step 13	-	-	8	8
Step 14	-	-	7	7
Step 15	-	-	6	6
Step 16	-	-	5	5
Step 17	-	-	4	4
Step 18	-	-	3	3
Step 19	-	-	2	2
Step 20	-	-	1	1
Step 21	Stop	Stop	Stop	0

Table 5: Example reduction regime for lorazepam 1mg twice daily

Step	Morning (mg)	Night (mg)	Total daily dose (diazepam mg)
Starting dose	Lorazepam 1	Lorazepam 1	20
Step 1	Lorazepam 1	Diazepam 10	20
Step 2	Diazepam 10	Diazepam 10	20
Step 3	9	10	19
Step 4	8	10	18
Step 5	7	10	17
Step 6	6	10	16
Step 7	5	10	15
Step 8	4	10	14
Step 9	3	10	13
Step 10	2	10	12
Step 11	1	10	11
Step 12	Stop	10	10
Step 13	-	9	9
Step 14	-	8	8
Step 15	-	7	7
Step 16	-	6	6
Step 17	-	5	5
Step 18	-	4	4
Step 19	-	3	3
Step 20	-	2	2
Step 21	-	1	1
Step 22	-	Stop	Stop

Note: See approximate dose equivalents and switching considerations above. Lorazepam is more potent and has a shorter half-life than diazepam. Therefore, cross tapering may be appropriate as a first step to allow assessment of tolerance and adverse effects (e.g. sedation, withdrawal) prior to active reduction.

Table 6: Example reduction regime diazepam 10mg three times daily and temazepam 20mg at night

Step	Morning (mg)	Lunch (mg)	Tea (mg)	Night (mg)	Total daily dose (diazepam mg)
Starting dose	Diazepam 10	Diazepam 10	Diazepam 10	Temazepam 20	40
Step 1	Diazepam 10	Diazepam 10	Diazepam 10	Diazepam 10	40
Step 2	10	5	10	10	35
Step 3	10	5	5	10	30
Step 4	10	4	4	10	28
Step 5	8	4	4	10	26
Step 6	6	4	4	10	24
Step 7	4	4	4	10	22
Step 8	4	2	4	10	20
Step 9	4	1	4	10	19
Step 10	4	Stop	4	10	18
Step 11	4	-	3	10	17
Step 12	4	-	2	10	16
Step 13	4	-	1	10	15
Step 14	4	-	Stop	10	14
Step 15	4	-	-	9	13
Step 16	4	-	-	8	12
Step 17	4	-	-	7	11
Step 18	4	-	-	6	10
Step 19	3	-	-	6	9
Step 20	2	-	-	6	8
Step 21	1	-	-	6	7
Step 22	Stop	-	-	6	6
Step 23	-	-	-	5	5
Step 24	-	-	-	4	4
Step 25	-	-	-	3	3
Step 26	-	-	-	2	2
Step 27	-	-	-	1	1
Step 28	Stop	Stop	Stop	Stop	0

6. Examples from practice and case studies

NHS Greater Glasgow and Clyde

Over the last 20 years the health board has used a variety of strategies to help general practice and others to minimise inappropriate B-Z prescribing.

Practice-level:
2002 saw the introduction of general practice clinical pharmacist-led interventions. Initially facilitation involved baseline audits; developing, agreeing and implementing practice B-Z prescribing policy; identifying people for review; creating individualised B-Z reduction schedules; updating and educating prescribers; re-auditing, monitoring and feedback on B-Z prescribing achieved. Then in 2004 prescribing pharmacist-led face-to-face clinics with people. Both methods have proved to be effective. However, pharmacist-led clinics have demonstrated to more reluctant prescribers that a reduction in inappropriate B-Z prescribing can be achieved. For people that are identified as appropriate for review, a third continue their current B-Z and dose, a third reduce their dose, and a third stop treatment. Referrals to specialist Alcohol and Drug Recovery Services were not required.

General practice clinical pharmacists who piloted the initial work supported and mentored their pharmacist and pharmacy technician colleagues. Cascading and sharing their experiences enabled more than 40 general practice pharmacists to deliver B-Z reduction clinics in numerous practices, by 2014.

Community Pharmacy
Pharmacist prescribers who worked in general practice and community pharmacies located close to practices started the review process and continued to manage reviews and reductions with individuals that routinely attended their pharmacies. This was well received by people prescribed B-Z therapy, as it saved them time making appointments at their general practice.

HSCPs and Board
2013 saw the introduction of board wide B-Z review quality prescribing indicators:

1. Preferred preparation - 2mg diazepam tablets instead of 5mg/10mg tablets.
2. Review and potential reduction targets.
3. Board wide voluntary ban on the prescribing of diazepam 10mg tablets (‘blues’) in primary and secondary care due to their street value and abuse potential.

The indicator work was incentivised and funded via the Quality and Outcomes Framework (QOF) general practice contract; however, many practices were interested and willing to review their B-Z prescribing and wanted to understand and share in the successes that neighbouring practices achieved.

Locality work took place with 11 general practices (the Dumbarton corridor project) February to May 2013. In February 2013, 15 GPs from the practices attended a workshop. Backfill was paid to allow attendance. A brief presentation was given by the HSCP lead pharmacist outlining current B-Z prescribing, guidelines, best practice and long-term risks associated with B-Z use. GPs were then given the opportunity to reflect on the content of the presentation. This was followed by discussion on:

1. When it is appropriate to prescribe short-term
2. Possible responses to individuals when a B-Z is not indicated
3. Approaches to reducing and/or stopping B-Z
4. Alternative pharmaceutical options

GPs then discussed recommending their next steps in practice and their immediate actions. Practices then contributed to an evaluation of this workshop and its early outcomes, by the end of May 2013. This achieved an overall reduction in B-Z prescribing (reduction in defined daily doses per 1000 individuals).

Opportunistically, in 2016, the central prescribing team encouraged practices and HSCP to review B-Z use due to cost-efficiency work to address the extreme price hikes for lormetazepam, nitrazepam liquid and temazepam.

The general practice clinical pharmacists have shared their learning and experiences with practice pharmacists and primary care teams working in other Scottish health boards and at national events and workshops within boards.

NHS Forth Valley

An anxiolytic and hypnotic workstream medicines management target was introduced in 2014/15 and continued in 2015/16. Practices could choose to participate as one of the three prescribing options, which were incentivised via the general practice contract and Quality and Outcomes Framework (QOF).

The anxiolytic and hypnotic workstream required three practice actions:

1. **Draw up a practice policy on the prescribing of anxiolytics and hypnotics.** All partners in the practice were to be in agreement with the policy and have read the Forth Valley Primary Care Guidance on benzodiazepines. All locums and reception staff made aware of the policy.
2. **Ensure that individuals know about the new practice policy for prescribing of anxiolytics and hypnotics.** Practices were advised to identify all people who had received the following medicines in the previous three months: diazepam, lorazepam, loprazolam, lormetazepam, oxazepam, nitrazepam, temazepam, zopiclone, zolpidem and zaleplon for review, with suggestions given on prioritisation. Individuals were contacted by the practice and appropriately

informed of the risks associated with hypnotic/anxiolytics and the new practice policy.

3. **Make a ≥20% reduction in DDDs/1000 people** (from an Oct-Dec 2013 baseline). This was to be achieved through flexible reduction regimes and no new people were to be started on a hypnotic or anxiolytic unless they met the licensed indications. New people were informed that they would receive a short-term course, that would not be repeated. The ≥20% reduction would be achieved by Oct-Dec 2014.

Practices were provided with an anxiolytic and hypnotic pack containing sample patient information leaflets, practice policy, poster, a reviewing B-Z flowchart, link to the local primary care benzodiazepine guidelines, invite letters and a management plan agreement. The National Therapeutic Indicator (NTI) data was provided to practices and used to monitor the outcomes. Baseline starting points were as below:

Table 7: NTI monitoring data for NHS Forth Valley

NTI Monitoring	Time Period	Lower Quartile	Median	Upper Quartile
NHS Forth Valley	Oct-Dec 2013	12.84	18.26	22.37
NHS Forth Valley	Oct-Dec 2015	8.72	13.84	17.23

Case study 1: Anxiety

Background (age, sex, occupation, baseline function)

- 24-year-old female
- Office administrator

History of presentation/ reason for review

- Reports a 12-week history of increasing anxiety including worry, mild irritability, difficulties concentrating and marked sleep disturbance
- Increasingly difficult to control her worries which is having an impact at work. Going to work early and staying late as taking extra time to both complete and then check over her work due to concerns she may make a mistake
- Parents have noticed she is more on edge, restless and seems tired all the time

Current medical history and relevant comorbidities

- No mental or physical health comorbidities

Current medication and drug allergies (include over the counter (OTC) preparation and herbal remedies)

- None

Lifestyle and current function (include frailty score for >65yrs), alcohol, smoking, diet, physical activity

- Single, no dependents
- Lives at home with her parents
- Social drinker
- Non-smoker
- Very supportive close group of friends, parents, and older brother that she has been able to talk to about her anxiety

“What matters to me” (ideas, concerns and expectations of treatment)

- Keen to reduce time she spends worrying, improve sleep, and feel less tense.
- Although experiencing some difficulties at work, she is keen to avoid time off and is still managing to go to the gym
- Keen to avoid medication
- Ask person to complete questions to prepare for the review (PROMs)

Results e.g. biochemistry, other relevant investigations or monitoring

Note: local lab reference ranges may vary

- GAD-7 score 8 (mild anxiety). However, as the anxiety is affecting her daily tasks of living, she is experiencing moderate anxiety

Most recent relevant consultations

- Presents as very motivated, has clear goals that including reducing the time she spends worrying, improved sleep, and feeling less tense
- Caffeine intake assessed and discussed
- Medication options are explored alongside psychological options. Has avoided coming into the practice as she is keen to avoid medication however expresses an interest in accessing CBT which she has looked up online. Comfortable using computers, see this as a flexible way to receive support that she can manage around her work and social commitments
- Reports no family history of suicide. No plans or intent to harm herself or others
- Agreed plan:
    - Medication options will not be commenced at this stage. Sleep hygiene discussed and written information given
    - Referral to Daylight, a cCBT package for Generalised Anxiety Disorder (GAD) with a review in the practice in four to six weeks' time or if symptoms worsen

Steps	Process	Person specific issues to address
1. **Aims** What matters to the individual about their condition(s)?	**Review diagnoses and consider:** • Therapeutic objectives of drug therapy • Management of existing health problems. • Prevention of future health issues, including lifestyle advice **Ask person to complete PROMs** (questions to prepare for my review) **before their review**	• Motivated and keen to reduce anxiety and time spent worrying • Improve focus at work • Improve sleep • Prefers to avoid medication
2. **Need** Identify essential drug therapy	**Identify essential drugs (not to be stopped without specialist advice)** • Drugs that have essential replacement functions (e.g. levothyroxine) • Drugs to prevent rapid symptomatic decline (e.g. drugs for Parkinson's disease, heart failure)	• None
3. Does the individual take unnecessary drug therapy?	**Identify and review the continued need for drugs** • what is medication for? • with temporary indications • with higher than usual maintenance doses • with limited benefit/evidence for use • with limited benefit in the person under review (see Drug efficacy & applicability (NNT) table)	• None

4. Effectiveness Are therapeutic objectives being achieved?	**Identify the need for adding/ intensifying drug therapy to achieve therapeutic objectives** • to achieve symptom control • to achieve biochemical/clinical targets • to prevent disease progression/exacerbation • is there a more appropriate medication to achieve goals?	• Medication options explored but not appropriate at present, interested and preference for cCBT and non-pharmacological management (e.g. sleep hygiene, physical activity, caffeine reduction)
5. Safety Does the individual have or is at risk of ADR/ Side effects? Does the person know what to do if they're ill?	**Identify individual safety risks by checking for** • appropriate individual targets e.g. HbA1c, BP • drug-disease interactions • drug-drug interactions (see ADR table) • monitoring mechanisms for high-risk drugs • risk of accidental overdosing **Identify adverse drug effects by checking for** • specific symptoms/laboratory markers (e.g. hypokalaemia) • cumulative adverse drug effects (see ADR table) • drugs used to treat side effects caused by other drugs **Medication Sick Day guidance**	• No current plans or intent to harm herself or others • No family history of suicide • Has good family and friends support network • Prefers non-pharmacological treatment to start with • Reducing the use of medicines that are not indicated or appropriate avoids the risk of ADRs
6. Sustainability Is drug therapy cost-effective and environmentally sustainable?	**Identify unnecessarily costly drug therapy by** • considering more cost-effective alternatives, safety, convenience **Consider the environmental impact of** • inhaler use • single use plastics • medicines waste • water pollution	• No medicines prescribed. Reducing the use of medicines that are not indicated or appropriate reduces the environmental impact from medicines

7. **Person-centredness** Is the person willing and able to take drug therapy as intended?	**Does the person understand the outcomes of the review?** • Consider Teach back **Ensure drug therapy changes are tailored to individual's preferences. Consider** • is the medication in a form they can take? • is the dosing schedule convenient? • what assistance is needed? • are they able to take medicines as intended? **Agree and communicate plan** • discuss and agree with the individual/carer/welfare proxy therapeutic objectives and treatment priorities • include lifestyle and holistic management goals • inform relevant health and social care providers of changes in treatments across the transitions of care **Ask person to complete the post-review PROMs questions after their review**	**Agreed plan** • Medication options will not be commenced at this stage • Sleep hygiene and non-pharmacological options discussed. Written information given with links to self-help resources • Referral made to a cCBT program (e.g. Daylight) for GAD. Review in the practice planned for four to six weeks' time

Key concepts in this case

- Moderate GAD
- Non-pharmacological preferred by the individual and matches with stepped-care model as per NICE guidelines
- Online computerised CBT fits with the individual's preference, needs, and ease of access

Case study 2: Sleep problems

Background (age, sex, occupation, baseline function)

- 32-year-old male

History of presentation/ reason for review

- Requesting diazepam for ongoing sleep problems
- When discussing sleep, he is avoiding going to bed and describes increasing anxiety at night reporting flashbacks and recurring nightmares related to a serious assault last year. In general his emotions are “all over the place” making him feel “out of control” and reporting memory problems. The assault has triggered memories of trauma earlier in his life
- In providing a safe place where his concerns were acknowledged he discloses he has been using street benzodiazepines and OTC Solpadeine Max® (co-codamol – codeine 12.8mg and paracetamol 500mg per tablet). He has also been increasing his alcohol consumption to block out his thoughts which he finds overwhelming
- He reports that his mood is low with fleeting thoughts of suicide
- On discussing polydrug use he becomes more tearful and agitated. He is aware of risks having witnessed a friend’s non-fatal overdose. This prompted him to come to the practice to see someone as he thought a prescription might help reduce risks with street and over-the-counter drugs. He would have more confidence in what and how much he was using coming from a legitimate source

Current medical history and relevant comorbidities

- No mental or physical health comorbidities

Current medication and drug allergies (include over the counter (OTC) preparation and herbal remedies)

- No prescribed medicines
- Previously prescribed dihydrocodeine for pain related to injuries from assault
- Buying OTC Solpadeine Max®.
- Allergies: amoxicillin – rash

Lifestyle and current function (include frailty score for >65yrs), alcohol, smoking, diet, physical activity

- Single, no dependents
- Lives alone

- Alcohol estimates 40 units a week – has been trying to reduce intake

“What matters to me” (ideas, concerns and expectations of treatment)

- Keen to have safe option to control symptoms – reduce street benzodiazepines and over-the-counter co-codamol use
- Ask person to complete questions to prepare for the review (PROMs)

Results e.g. biochemistry, other relevant investigations or monitoring

Note: local lab reference ranges may vary

- No recent bloods or tests

Most recent relevant consultations

- None

Steps	Process	Person specific issues to address
1. **Aims** What matters to the individual about their condition(s)?	**Review diagnoses and consider:** • Therapeutic objectives of drug therapy • Management of existing health problems • Prevention of future health issues, including lifestyle advice **Ask person to complete PROMs** (questions to prepare for my review) **before their review**	• Keen to have safe options to control his symptoms including sleep and mood • Wants to reduce avoidable harms from street and over-the-counter drugs, and alcohol use
2. **Need** Identify essential drug therapy	**Identify essential drugs (not to be stopped without specialist advice)** • Drugs that have essential replacement functions (e.g. levothyroxine) • Drugs to prevent rapid symptomatic decline (e.g. drugs for Parkinson's disease, heart failure)	• No essential medicines prescribed
3. Does the individual take unnecessary drug therapy?	**Identify and review the continued need for drugs** • what is medication for? • with temporary indications • with higher than usual maintenance doses • with limited benefit/evidence for use • with limited benefit in the person under review (see Drug efficacy & applicability (NNT) table)	• No current prescribed medication • Review need for continuing analgesia

4. **Effectiveness** Are therapeutic objectives being achieved?	**Identify the need for adding/ intensifying drug therapy to achieve therapeutic objectives** • to achieve symptom control • to achieve biochemical/clinical targets • to prevent disease progression/exacerbation • is there a more appropriate medication to achieve goals?	• May be appropriate to consider starting low dose diazepam, however this may be more appropriate once reviewed by specialist services
5. **Safety** Does the individual have or is at risk of ADR/ Side effects? Does the person know what to do if they're ill?	**Identify individual safety risks by checking for** • appropriate individual targets e.g. HbA1c, BP • drug-disease interactions • drug-drug interactions (see ADR table) • monitoring mechanisms for high-risk drugs • risk of accidental overdosing **Identify adverse drug effects by checking for** • specific symptoms/laboratory markers (e.g. hypokalaemia) • cumulative adverse drug effects (see ADR table) • drugs used to treat side effects caused by other drugs **Medication Sick Day guidance**	• Fleeting suicidal ideation, young and in high-risk group. Give suicide prevention advice and strategies. Given emergency contact numbers for support services • Need for appropriate harm reduction strategies • Discuss risk associated with street benzodiazepines • Discuss risk of alcohol interaction with medication and support reduction
6. **Sustainability** Is drug therapy cost-effective and environmentally sustainable?	**Identify unnecessarily costly drug therapy by** • considering more cost-effective alternatives, safety, convenience **Consider the environmental impact of** • inhaler use • single use plastics • medicines waste • water pollution	• Patient advised to dispose of any unused medicines through community pharmacy • Advised not dispose of medicine via household or water waste

7. Person-centredness

Is the person willing and able to take drug therapy as intended?

Does the person understand the outcomes of the review?

- Consider Teach back

Ensure drug therapy changes are tailored to individual's preferences. Consider

- is the medication in a form they can take?
- is the dosing schedule convenient?
- what assistance is needed?
- are they able to take medicines as intended?

Agree and communicate plan

- discuss and agree with the individual/carer/welfare proxy therapeutic objectives and treatment priorities
- include lifestyle and holistic management goals
- inform relevant health and social care providers of changes in treatments across the transitions of care

Ask person to complete the post-review PROMs questions after their review

Agreed plan

- Having checked his understanding of the current risks, he is offered further harm reduction advice, including avoiding buying benzodiazepines in bulk, splitting his dose and not using alone
- He has been reducing alcohol intake so advice regarding effect on mood and sleep. Safe reduction schedule discussed and aware not to stop abruptly
- Overdose effects due to polydrug use including OTC paracetamol and opioids rediscussed
- Check naloxone trained and has in-date supply – social group at higher risk of drug-related deaths due to substance use
- Give advice regarding suicide safety and a printed list of suicide counselling services in case of emergency
- He is ambivalent regarding a referral to specialist drug and alcohol services however has agreed to consider this and is willing to attend a local third sector drop in before returning for a review appointment in three days' time
- May be appropriate to consider starting low dose diazepam, however this may be more appropriate once reviewed by specialist services
- Assess for PTSD presentation (possible complex trauma) and consider referral to Mental Health

services and Psychological support when suitable to engage
- Key points from appointment are written down for him including the date and time of the next appointment

Key concepts in this case

- Initial focus on detoxification
- Reduce street benzos and over-the-counter co-codamol use
- Reduce alcohol intake but not abruptly stop
- Non-prescribed polypharmacy use – challenges in assessing possible dependency as uncertainty around dose
- Increased risks of non-fatal overdose
- Consider existing comorbidities e.g. potential liver damage, cognitive impairment
- Importance of education around effects of alcohol on mood and sleep
- Use of non-medicine interventions for sleep
- Suicide awareness and prevention
- Harm reduction with naloxone

Case study 3: Memory problems

Background (age, sex, occupation, baseline function)

- 57-year-old female
- Nursery manager

History of presentation/ reason for review

- Family and friends have commented on memory problems over last six months, for example, goes to shop and forgets what is needed. Reviewed by psychiatry, short-term memory impairment

Current medical history and relevant comorbidities

- Problems with memory for approximately six months
- Low mood – two years
- Brain injury due to road traffic accident four years ago

Current medication and drug allergies (include over the counter (OTC) preparation and herbal remedies)

- Diazepam 5mg one tablet twice daily if needed for anxiety. Ordering 56 tablets every month, but states taking as required. Prescribed for longer than two years
- Allergies: states ‘bad reaction to fluoxetine’ – unclear symptoms

Lifestyle and current function (include frailty score for >65yrs), alcohol, smoking, diet, physical activity

- Ex-smoker
- Alcohol – approximately 10 units/week

“What matters to me” (ideas, concerns and expectations of treatment)

- Having a better memory
- Ask person to complete questions to prepare for the review (PROMs)

Results e.g. biochemistry, other relevant investigations or monitoring

Note: local lab reference ranges may vary

- All blood tests within normal ranges (U&Es, LFTs, FBC, B12, folate, ferritin, TFTs, bone profile)
- Mini-Mental State Exam 26/30 – normal cognition
- Addenbrooke’s Cognitive Examination 96/100 - normal cognition

Most recent relevant consultations

Four months prior to review

- Attending physiotherapy for neck pain with good effect. Has managed to stop ibuprofen and will aim to reduce diazepam use

Steps	Process	Person specific issues to address
1. **Aims** What matters to the individual about their condition(s)?	**Review diagnoses and consider:** • Therapeutic objectives of drug therapy • Management of existing health problems. • Prevention of future health issues, including lifestyle advice **Ask person to complete PROMs** (questions to prepare for my review) **before their review**	• Wants to improve memory problems • Diazepam: minimise actual and potential medication related harms
2. **Need** Identify essential drug therapy	**Identify essential drugs (not to be stopped without specialist advice)** • Drugs that have essential replacement functions (e.g. levothyroxine) • Drugs to prevent rapid symptomatic decline (e.g. drugs for Parkinson's disease, heart failure)	• None
3. Does the individual take unnecessary drug therapy?	**Identify and review the continued need for drugs** • what is medication for? • with temporary indications • with higher than usual maintenance doses • with limited benefit/evidence for use • with limited benefit in the person under review (see Drug efficacy & applicability (NNT) table)	• Review need for diazepam – anxiety for more than two years. Takes 10mg daily regularly. Consider need for ongoing treatment and discuss a tapering plan, as may not be suitable to stop immediately

4. **Effectiveness** Are therapeutic objectives being achieved?	**Identify the need for adding/ intensifying drug therapy to achieve therapeutic objectives** • to achieve symptom control • to achieve biochemical/clinical targets • to prevent disease progression/exacerbation • is there a more appropriate medication to achieve goals?	• Discuss non-pharmacological methods to help mood and wellbeing • Plan to stop diazepam which may cause/worsen memory impairment
5. **Safety** Does the individual have or is at risk of ADR/ Side effects? Does the person know what to do if they're ill?	**Identify individual safety risks by checking for** • appropriate individual targets e.g. HbA1c, BP • drug-disease interactions • drug-drug interactions (see ADR table) • monitoring mechanisms for high-risk drugs • risk of accidental overdosing **Identify adverse drug effects by checking for** • specific symptoms/laboratory markers (e.g. hypokalaemia) • cumulative adverse drug effects (see ADR table) • drugs used to treat side effects caused by other drugs **Medication Sick Day guidance**	• Diazepam – lack of efficacy? Questionable effects? May be contributing to anxiety, and causing short-term memory impairment
6. **Sustainability** Is drug therapy cost-effective and environmentally sustainable?	**Identify unnecessarily costly drug therapy by** • considering more cost-effective alternatives, safety, convenience **Consider the environmental impact of** • inhaler use • single use plastics • medicines waste • water pollution	• All medicines are formulary choices • Patient advised to dispose of medicines through community pharmacy • Advised patient to only order what is needed, do not stockpile medicines

7. Person-centredness Is the person willing and able to take drug therapy as intended?	**Does the person understand the outcomes of the review?** • Consider Teach back **Ensure drug therapy changes are tailored to individual's preferences. Consider** • is the medication in a form they can take? • is the dosing schedule convenient? • what assistance is needed? • are they able to take medicines as intended? **Agree and communicate plan** • discuss and agree with the individual/carer/welfare proxy therapeutic objectives and treatment priorities • include lifestyle and holistic management goals • inform relevant health and social care providers of changes in treatments across the transitions of care **Ask person to complete the post-review PROMs questions after their review**	**Agreed plan** • Go slow and low reduction of diazepam. Planned reduction schedule discussed and agreed • Diazepam to reduce by 1mg every four weeks with follow-up reviews as agreed and need • Prescription to be supplied as special request (acute) with planned reduction steps recorded in clinical notes

Key concepts in this case

- Diazepam and other benzodiazepines/z-drugs can worsen memory impairment and anxiety symptoms
- Reducing long-term diazepam use and dose can help to minimize avoidable medicine related harms
- Long-term diazepam therapy may require a gradual dose reduction prior to stopping

Case study 4: Depression with anxiety

Background (age, sex, occupation, baseline function)

- 49-year-old female
- Works two part-time jobs: school cleaner and dinner lady at different schools
- Lives with adult daughter (currently pregnant) and daughter's partner
- Two adult sons, one local, one lives further away
- Very active helping others

History of presentation/ reason for review

- Contacted by the practice for review of her benzodiazepine

Current medical history and relevant comorbidities

- Mixed depression anxiety – 20 years
- Asthma – 20 years
- Dry eyes – 2 years

Current medication and drug allergies (include over the counter (OTC) preparation and herbal remedies)

- Carbomer eye gel - as required
- Clenil® (beclomethasone) 200 microgram MDI - two puffs twice daily
- Hypromellose eye drops - as required
- Diazepam 5mg tablets - two tablets three times a day
- Paracetamol 500mg tablets - two tablets four times a day if needed
- Salbutamol 100microgram MDI - one to two puffs four times a day if needed
- Temazepam 20mg tablets – one tablet at night
- Venlafaxine 150mg modified-release (MR) capsules – one capsule daily (prescribed for three years)

Lifestyle and current function (include frailty score for >65yrs), alcohol, smoking, diet, physical activity

- Walks between jobs, does not drive
- Smoker - 10 cigarettes per day
- No alcohol
- Number of episodes of deliberate self-harm, last overdose five years ago

"What matters to me" (ideas, concerns and expectations of treatment)

- Main focus is being there for and able to help her family
- At review agrees to reduce diazepam but not temazepam

- Managing well with other medicines, reports:
    - Asthma well controlled (Has ordered two salbutamol reliever inhalers over last 12 months). Demonstrates good inhaler technique
    - Depression and anxiety mood stable, less depression symptoms over the last two to three years. PHQ-9 score 8 (mild depression). Denies thoughts of self-harm or suicide
- Ask person to complete questions to prepare for the review (PROMs)

Results e.g. biochemistry, other relevant investigations or monitoring

Note: local lab reference ranges may vary

- Weight 52kg, height 1.6m, BMI 20 kg/m2
- BP 134/84 mmHg
- Normal blood results previously, including thyroid function tests

Most recent relevant consultations

- Rarely attends GP. Last consultation 18 months ago for dry eyes

Steps	Process	Person specific issues to address
1. **Aims** What matters to the individual about their condition(s)?	**Review diagnoses and consider:** • Therapeutic objectives of drug therapy • Management of existing health problems. • Prevention of future health issues, including lifestyle advice **Ask person to complete PROMs** (questions to prepare for my review) **before their review**	• Wishes to maintain good control of depression and anxiety • Wondering what drops to use for her dry eyes
2. **Need** Identify essential drug therapy	**Identify essential drugs (not to be stopped without specialist advice)** • Drugs that have essential replacement functions (e.g. levothyroxine) • Drugs to prevent rapid symptomatic decline (e.g. drugs for Parkinson's disease, heart failure)	• Asthma: Clenil® and salbutamol. Check inhaler technique and adherence to preventative therapy • Venlafaxine - mood currently stable
3. Does the individual take unnecessary drug therapy?	**Identify and review the continued need for drugs** • what is medication for? • with temporary indications • with higher than usual maintenance doses • with limited benefit/evidence for use • with limited benefit in the person under review (see Drug efficacy & applicability (NNT) table)	• Currently on hypromellose and carbomer for dry eyes. Prefers carbomer. Stop hypromellose • Paracetamol – uses irregularly • Diazepam and temazepam prescribed for longer than four weeks and may worsen depression/anxiety symptoms

4. **Effectiveness** Are therapeutic objectives being achieved?	**Identify the need for adding/intensifying drug therapy to achieve therapeutic objectives** • to achieve symptom control • to achieve biochemical/clinical targets • to prevent disease progression/exacerbation • is there a more appropriate medication to achieve goals?	• Total daily diazepam equivalent dose is 40mg. Diazepam reduction agreed
5. **Safety** Does the individual have or is at risk of ADR/ Side effects? Does the person know what to do if they're ill?	**Identify individual safety risks by checking for** • appropriate individual targets e.g. HbA1c, BP • drug-disease interactions • drug-drug interactions (see ADR table) monitoring mechanisms for high-risk drugs • risk of accidental overdosing **Identify adverse drug effects by checking for** • specific symptoms/laboratory markers (e.g. hypokalaemia) • cumulative adverse drug effects (see ADR table) • drugs used to treat side effects caused by other drugs **Medication Sick Day guidance**	• No clear indication for long-term diazepam and temazepam • Previous history of self-harm
6. **Sustainability** Is drug therapy cost-effective and environmentally sustainable?	**Identify unnecessarily costly drug therapy by** • considering more cost-effective alternatives, safety, convenience **Consider the environmental impact of** • inhaler use	• All medicines are local formulary choices • Prescribe carbomer in line with health board formulary • Venlafaxine MR to standard release considered inappropriate • Good asthma control, appropriate salbutamol use

	• single use plastics • medicines waste • water pollution	• Patient advised to dispose of medicines through community pharmacy • Advised patient to only order what is needed, do not stockpile medicines
7. Person-centredness Is the person willing and able to take drug therapy as intended?	**Does the person understand the outcomes of the review?** • Consider Teach back **Ensure drug therapy changes are tailored to individual's preferences. Consider** • is the medication in a form they can take? • is the dosing schedule convenient? • what assistance is needed? • are they able to take medicines as intended? **Agree and communicate plan** • discuss and agree with the individual/carer/welfare proxy therapeutic objectives and treatment priorities • include lifestyle and holistic management goals • inform relevant health and social care providers of changes in treatments across the transitions of care **Ask person to complete the post-review PROMs questions after their review**	**Agreed plan** • Low and slow reduction of benzodiazepines. Start to reduce diazepam dose as per table below. At third review agrees to reduce temazepam • Follow-up agreed at a suitable time by phone between jobs e.g. between 2-3pm weekdays • Prescription changed to acute issue rather than on repeat

Key concepts in this case

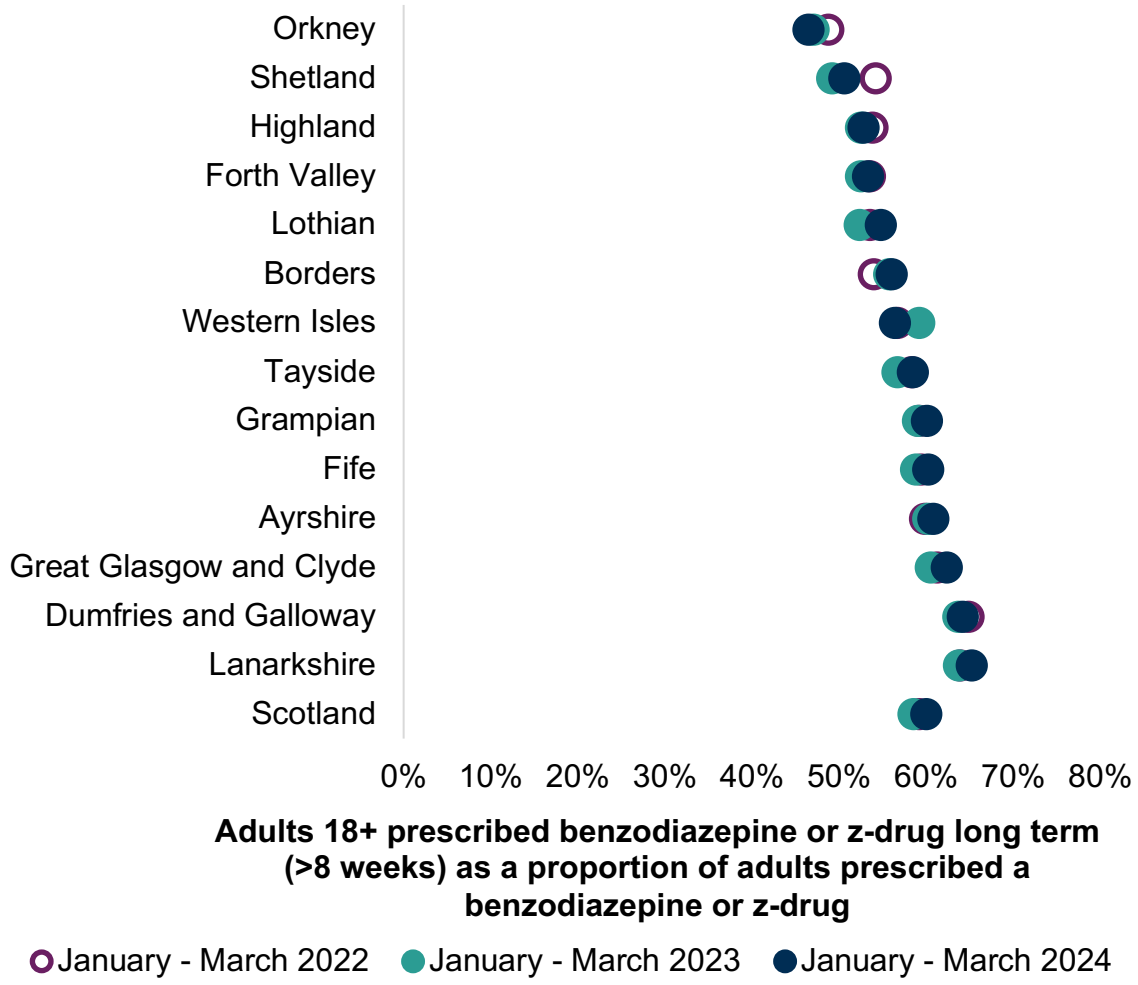
- Shared approach to reducing benzodiazepines, engaging with people and their willingness to reduce. After initial diazepam dose reduction went well, individual was content to attempt reduction of temazepam therapy
- Rationalisation of preparations for dry eyes

7.Data – National Therapeutic Indicators (NTIs) and the Scottish Therapeutics Utility (STU)

National Therapeutic Indicators

To identify where your health board, GP cluster or GP practice benchmark in relation to prescribing indicators please use the following National Therapeutic Indicator dashboard. Here you will find the three-point timeline allowing you to benchmark your practice, cluster or health board region against similar areas or the Scottish average in a wide range of prescribing areas.

Chart 5: Adults prescribed a benzodiazepine or z-drug (B-Z) long-term (>8 weeks) as a proportion of adults prescribed a B-Z



The full list of current National Therapeutic Indicators for Benzodiazepines and z-drugs are listed in Appendix 8 and a set of related searches have been developed in

the Scottish Therapeutics Utility (STU) to help you identify individuals within your GP practice.

Scottish Therapeutics Utility

Once you have identified where your GP practice, GP cluster or health board sits in relation to similar clusters and the Scottish average, use the Scottish Therapeutics Utility (STU) tool in your practice to identify these individuals for review of treatment where necessary. The Scottish Therapeutics Utility tool is available to download within all general practices in Scotland and provides a suite of case finding prescribing indicators to help you identify individuals who could benefit from review. STU links to the patient record allowing you to make changes to medication within Vision and EMIS from the toolkit itself. It can be downloaded on your practice computer using the installation guide on the Effective Prescribing and Therapeutic website.

Users can click on the required prescribing indicator and select a specific patient medication record and any acute prescriptions issued in the last 84 days. Acute prescriptions are annotated with (a). The data can then be sorted by any of the columns by clicking on the column heading. As STU uses more accurate practice level data, updated in near real time, the number of patients identified in general practice may differ from the benchmarking numbers displayed on the National Therapeutic Indicators. NTIs use a different data source updated on a quarterly basis and as a result any changes made at a practice level on STU may take time to be reflected on the NTI dashboard.

Any additional STU searches that could help you or your practice in identifying issues around prescribing can be suggested to the STU team for consideration using the email nti.stu@gov.scot.

Abbreviations

A&A	Ayrshire and Arran Health Board
ADRs	Adverse drug reactions
BAP	British Association for Psychopharmacology
B-Z	Benzodiazepine and/or z-drug
B12	Vitamin B12 (cobalamin)
CBT	Cognitive Behavioural Therapy
cCBT	computerised Cognitive Behavioural Therapy
CLW	Community Link Worker
DDD	Defined daily dose
D&G	Dumfries and Galloway Health Board
FBC	Full blood count
FV	Forth Valley Health Board
GAD	Generalised Anxiety Disorder
GAD-7	Generalised Anxiety Disorder questionnaire
GGC	Greater Glasgow and Clyde Health Board
GP	General practitioner
HSCP	Health and Social Care Partnership
LFTs	Liver function tests
MAT	Medication Assisted Treatment
MDI	Metered dose inhaler
MR	Modified release
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NNH	Number needed to harm
NNT	Number needed to treat
NTI	National Therapeutic Indicator
OTC	Over the counter
PHQ-9	Patient Health Questionnaire
PROMs	Patient Reported Outcomes Measures
PTSD	Post-traumatic stress disorder
QOF	Quality and Outcomes Framework
SSRI	Selective serotonin re-uptake inhibitor
STU	Scottish Therapeutics Utility
TFTs	Thyroid function tests
U&Es	Urea and electrolytes
WI	Western Isles Health Board

Appendix 1. Sleep hygiene – Information leaflet

Things to consider that can help and improve your quality of sleep and reduces anxiety

- **How much caffeine do you take?** Remember that caffeine is a stimulant which is alerting and will affect your sleep quality and any anxiety. Common products that contain caffeine are tea, coffee, Irn-Bru®, cola, Red Bull®, Pro Plus® tablets and some energy drinks. Some pain medicines also contain caffeine Solpadeine®, Propain®, Panadol Plus®, Veganin® etc. Therefore, try to avoid all caffeine containing products after 6pm in the evening.
- **Alcohol** will affect the quality of your sleep, which may add to problems of anxiety and depression
- **Other things that affect sleep:**
    - Watching television stimulates your brain with sound, light and motion. All of these stimulate your body and reduce fatigue.
    - Watching television in your bedroom. This can affect sleep quality as your body gets out of the habit of being trained to go to bed to sleep. Therefore, remove TV from bedroom.
    - Noisy neighbours – difficult to deal with but ear plugs may help.
- **How to improve sleep:**
    - **Establish a routine** Go to bed and get up at the same time each day.
    - **No naps** Try not to sleep during the day.
    - **Unwind the mind** May help writing down problems and filing them away until the next morning. Address problems the next day, e.g. money/family problems.
    - **Take regular exercise**, such as a brisk 20-minute walk. Natural chemicals (endorphins) produced during exercise have a calming and relaxing affect after you have exercised. Do not exercise before going to bed or for three hours before going to bed as this can have the opposite effect.
    - **Hot caffeine-free drinks** will warm you and help your body relax.
    - **Make time to relax** Quiet time reflecting, listening to calming music such as classical, transient house, etc. 20-30 minutes a day would be enough. Watching TV does not help as it can be overstimulating.
    - **Consider using ear plugs** for noise that is affecting you which you cannot control.
    - **If all else fails get out of bed** and do something (read, etc) and then go back to bed.

Other information:

- NHS Inform: Sleep problems and insomnia self-help guide
- NHS How to get to sleep: Sleep and tiredness
- The Sleep Charity: Information for adults
- The Sleep Charity: Teen Sleep Hub

Appendix 2. Resources to support low intensity psychosocial/psychological interventions

The NHS Inform (Mental Health) website provides information regarding a range of mental health difficulties. In addition to self-help guides, NHS Inform provides links to evidence-based digital/online resources and telephone support based on CBT principles, see options below. Decisions regarding interventions should be based on an assessment of need and consider both suitability and acceptability for the individual. Regular review is necessary to monitor progress and to step-up care as and when required. There may also be a number of wellbeing resources available across localities.

Beating the Blues	cCBT programme for mild to moderate symptoms of depression and/or anxiety: Eight sessions
Living Life	Appointment based telephone support for anxiety and depression for ≥16 years: Four to nine sessions. Tel: 0800 328 9655
SilverCloud	Range of online psychoeducational programmes to support wellbeing, stress and mild to moderate anxiety and low mood
Sleepio	Online resource for insomnia
Daylight	Online resource for anxiety

Note: For SilverCloud see 'How to assess for patient suitability for online mental health and wellbeing programs'[88] for more detail.

Appendix 3. Practice policy poster

As referred to in Practice Policy.

The Surgery
The Road
The Town / City

Notice to All Patients

In line with Health Board* and National Guidance the practice is currently reviewing individuals prescribed:

Chlordiazepoxide
Clonazepam
Diazepam
Lorazepam
Loprazolam
Lormetazepam
Oxazepam
Nitrazepam
Temazepam
Zopiclone
Zolpidem

Please note that these tablets will **no longer** routinely be commenced.
If you require any further information, please discuss with your doctor.

Dr A Dr B Dr C Practice Manager

Appendix 4. Practice invitation letter for review

[Practice letterhead]

Private & Confidential

Patient Name
Patient Address

Date

Dear

From reviewing your records, we note that you are currently prescribed [medication name(s)]. With all medicines it is important that your [medication name(s)] is routinely reviewed in line with current guidelines and safety advice, due to the risk of adverse effects and avoidable harms:

- Depression
- Memory loss and dementia
- Falls and hip fractures
- Increase in road traffic accidents
- Addiction

We are now inviting you to contact the practice to arrange a routine appointment where we can discuss your current use of [medication name(s)]. No further routine repeat prescription supplies will be made until [medication name(s)] is reviewed.

Yours sincerely

Drs A, B and C

Appendix 5. Patient information leaflet

Background

Benzodiazepines and z-drugs, also known as sedatives, anxiolytics and sleeping tablets, have limited therapeutic effects, and are known to cause a range of avoidable adverse drug effects and harms. Dependence (both physical and psychological) and tolerance (loss of effect) can develop quickly within weeks of starting them. Therefore, when they are needed, they should only be prescribed for a short course (e.g. maximum of seven days). However, some individuals may have received longer courses of treatment which may lead to difficulty withdrawing the drug after taking it regularly for more than a few weeks. It also exposes individuals to avoidable drug-related harms which can be reduced by reviewing, reducing and stopping treatment where appropriate.

What is the purpose of the benzodiazepines and z-drugs quality prescribing guide?

It is intended to:

- Empower and help people who receive benzodiazepines and/or z-drugs, and prescribers to review these medicines to ensure the best treatment for the individual.
- Improve the support available from the healthcare system for individuals experiencing dependence on, or withdrawal from, prescribed medicines.
- Help prescribers identify individuals who may benefit from a benzodiazepine and/or z-drug review and support routine medicines reviews.
- Provide a range of options, where appropriate, for individuals that have completed their course of benzodiazepines and/or z-drug treatment and are appropriate to reduce and stop their benzodiazepine and/or z-drug.

Do I need to have my benzodiazepines and z-drug reviewed?

- Yes, as benzodiazepines and z-drugs:
    - Have limited effects for reducing anxiety, insomnia and muscles spasms.
    - Are known to be associated with a range of avoidable adverse effects and harms:
        - depression and low mood
        - memory loss and dementia
        - falls and hip fractures
        - increase in road traffic accidents
        - paradoxical effects: insomnia, anxiety, irritability, etc.
        - addiction
- Having medicines reviewed regularly creates an opportunity to discuss if a medicine needs to continue and consider effective non-medicine treatments and lifestyle changes that may help.

Do I need to stop my benzodiazepines and z-drug?

- It may be appropriate for some individuals to stop, but not for others.
- Continuing treatment maybe appropriate because there are more benefits to continuing than risks of stopping treatment e.g. epilepsy, Parkinson's disease.
- Reducing and/or stopping may be necessary to reduce the risk of avoidable adverse effects and harms e.g. falls, confusion, sedation, etc.

How should I stop my benzodiazepines and z-drugs?

If you are ready to stop your benzodiazepines and z-drugs:

- Arrange a review with your general practice doctor, pharmacist or nurse.
- Discuss stopping your medicine and agree if this is appropriate.
- If appropriate to stop, then plan and agree the best way to do this for you considering the options outlined in the benzodiazepines and z-drug quality prescribing guide.

Appendix 6. A practice policy example

Anxiolytic & Hypnotic Prescribing Practice Policy

Starting individuals on benzodiazepine or z-drug (B-Z-drugs)

- **Restrict B-Z-drugs use:** to individuals in whom alternative options have been tried and failed or considered inappropriate.
- **Acute prescription only.** For symptomatic use on an as needed basis. **Not** regular basis.
- For a **maximum of seven days** and advise the individual that it **cannot be repeated within four weeks** from the date of issue.
- **Do not** add B-Z-drugs to the repeat prescription list.
- **Do not** prescribe 5mg or 10mg strength of diazepam tablets due to their black-market value. Only use diazepam 2mg tablets.
- If B-Z-drugs are to be initiated, then **include a caution message on the label: "Warning this drug may cause dependence on long-term use"**
- Display a poster to inform individuals of the practice policy in the waiting area (Appendix 3)
- Encourage practice staff to make individuals aware of the new policy when requests are made for B-Z-drugs

Existing practice individuals that are currently prescribed a B-Z-drug

- **Should be informed of policy** as outlined above.
- **Remove B-Z from repeat prescription list**. Send a letter to the individual informing them that their B-Z will now need to be ordered as an acute prescription. Invite individual for review (Appendix 4).
- **Individuals will be reviewed** by one of the GPs (and/or general practice clinical pharmacist)* to discuss implementing a plan to reduce and stop the drug(s) in a structured and supported manner, if safe and appropriate to do so. NB Remember to refer to exclusion list.
- **Arrange and agree follow up** at a time that is suitable to the individual, e.g. phone review during the individual's working day may help individuals engage with supported review and reduction.
- **Continued issuing of prescriptions** should be informed by the individual's progress

- **Poor individual engagement with practice policy (without good reason).** Arrange regular contact with the individual to reinforce the message at every opportunity.
- **Over ordering.** Restrict quantities. Consider weekly dispense.

Newly registered individuals already taking B-Z drug

- Should be informed of policy as outlined above.
- **Individuals will be reviewed by one of the GPs** (and/or general practice clinical pharmacist) to discuss implementing a reduce and discontinue drug(s) in a structured and supported manner if safe and appropriate to do so. NB Remember to refer to exclusion list.

* The majority of individuals should be reviewed by their own GP. Where individuals have had their B-Z reviewed, reduced and discontinued by their GP they are more likely to stay off B-Z medication. Proactively reviewing and reducing B-Z creates an opportunity to reflect on prescribing practice, change behaviours and improve sustainability. Where it is appropriate for pharmacists to review individuals, the reviews should be split: 80% GP and 20% pharmacist.

Appendix 7. Data tables from indicator charts

Table 8: NHS board benzodiazepine and z-drug prescribing by defined daily dose (DDD*) per 1000 list size per day

-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Scotland
1993/94	35	27	31	24	32	22	-	-	36	31	21	10	34	23	31
1994/95	33	27	31	24	31	21	-	-	36	31	21	10	35	24	31
1995/96	30	24	29	24	30	21	-	-	34	31	20	11	33	23	30
1996/97	30	23	30	24	30	22	-	-	35	32	19	12	33	23	30
1997/98	30	22	32	26	29	23	-	-	36	32	18	13	33	24	31
1998/99	30	22	32	26	28	24	-	-	35	30	18	14	34	24	31
1999/00	29	22	31	27	27	25	-	-	35	27	17	15	32	25	30
2000/01	28	22	32	28	26	26	-	-	35	26	15	14	32	26	30
2001/02	27	22	33	28	25	25	-	-	35	26	14	14	32	27	30
2002/03	26	23	32	28	24	25	36	23	35	26	14	14	32	29	30
2003/04	25	23	33	28	24	25	36	23	34	25	14	14	32	31	29
2004/05	24	23	33	27	23	25	35	23	33	25	14	15	30	30	29
2005/06	23	22	32	26	23	25	35	23	32	24	14	14	28	32	28
2006/07	22	21	31	26	23	24	35	23	32	23	13	12	26	34	27
2007/08	21	19	29	25	23	23	34	21	32	23	14	11	25	34	27
2008/09	21	17	28	25	23	22	33	21	32	22	13	10	24	34	26
2009/10	20	17	28	25	23	20	31	21	32	22	12	11	23	33	25
2010/11	20	18	28	25	23	20	30	20	31	22	13	11	22	33	25
2011/12	19	16	27	24	21	19	29	19	30	22	13	11	22	32	24
2012/13	18	16	25	23	21	18	27	17	29	21	12	10	20	28	23
2013/14	18	15	24	21	20	18	25	16	29	21	12	10	20	26	22
2014/15	18	15	23	19	17	18	24	15	28	21	11	10	19	25	21
2015/16	18	16	24	17	14	17	22	14	27	20	11	10	18	24	20
2016/17	18	15	23	17	12	17	21	14	26	19	10	9	18	23	19
2017/18	17	15	22	16	12	17	20	13	25	18	10	8	17	21	18
2018/19	17	15	22	16	11	17	19	12	24	16	9	8	16	19	17
2019/20	17	14	21	16	11	16	19	12	24	15	9	8	15	20	17
2020/21	16	14	21	16	10	16	19	11	23	14	8	7	14	20	17
2021/22	16	13	20	16	10	16	19	11	22	14	7	7	14	19	16
2022/23	15	14	19	16	10	16	20	11	22	13	8	7	13	19	16
2023/24	15	14	18	15	9	15	19	11	21	12	8	7	12	18	15

Table 9: Proportion of adults prescribed a benzodiazepine or z-drug (B-Z) for 8 weeks or less, or longer than 8 weeks, by NHS board, Scotland 2023/24 (Chart 2)

NHS Board	Long- term	Short-term
NHS Ayrshire & Arran	3.10	3.78
NHS Borders	3.00	4.30
NHS Dumfries & Galloway	3.48	3.62
NHS Fife	2.95	3.72
NHS Forth Valley	2.05	3.37
NHS Grampian	2.36	2.96
NHS Greater Glasgow & Clyde	3.63	4.03
NHS Highland	2.46	3.90
NHS Lanarkshire	4.04	4.04
NHS Lothian	2.15	3.16
NHS Orkney	1.76	3.60
NHS Shetland	1.80	3.38
NHS Tayside	2.61	3.49
NHS Western Isles	3.73	4.56
Scotland	2.94	3.62

Table 10: Adults prescribed a benzodiazepine or z-drug (B-Z) long-term (>8 weeks) as a proportion of adults prescribed a B-Z (Chart 3)

NHS Board	Jan to Mar 2022	Jan to Mar 2023	Jan to Mar 2024
NHS Ayrshire & Arran	59.8%	60.3%	60.9%
NHS Borders	54.0%	55.7%	56.0%
NHS Dumfries & Galloway	64.8%	63.7%	64.2%
NHS Fife	59.4%	58.8%	60.2%
NHS Forth Valley	53.6%	52.5%	53.4%
NHS Grampian	59.2%	59.0%	60.1%
NHS Greater Glasgow & Clyde	61.3%	60.5%	62.4%
NHS Highland	53.8%	52.5%	52.8%
NHS Lanarkshire	63.9%	63.8%	65.3%
NHS Lothian	53.6%	52.4%	54.8%
NHS Orkney	48.8%	47.1%	46.5%
NHS Shetland	54.2%	49.2%	50.6%
NHS Tayside	58.3%	56.7%	58.4%
NHS Western Isles	56.7%	59.2%	56.4%
Scotland	59.2%	58.6%	60.0%

Appendix 8. National Therapeutic Indicators for mental health conditions

NTI: Hypnotic and anxiolytic (excluding melatonin) defined daily doses (DDDs) per 1,000 list size per day (all age groups included)

Benzodiazepines and z-drugs (B-Z) demonstrate limited therapeutic effects for the short-term (e.g. less than two weeks) treatment of insomnia and some anxiety disorders (e.g. generalised anxiety disorder, panic disorder). For the vast majority, long-term use of B-Z raises the risk of harm and is contrary to current clinical guidelines and drug licensing, as B-Z are licensed for a maximum of four weeks. B-Z use is associated with tolerance, dependence and avoidable drug-related harms. These harms include but are not limited to:

- cognitive dysfunction (confusion, impaired concentration, memory impairment, impaired ability to drive and increased accidents)
- falls, and associated increased risk of hip fractures
- depressive symptoms
- paradoxical effects i.e. disinhibition, anxiety and impulsivity

Therefore B-Z should generally be limited to short courses with regular review.

There should be a low level of prescribing of hypnotics and anxiolytics for this indicator.

Actions:

- Health boards and prescribers to ensure appropriate use of B-Z; promoting person-centred reviews, and appropriate continuation, reduction and stopping of them
- The 'What matters to you' approach can assist the individual to achieve goals which have been identified and developed in partnership with clinicians
- Non-pharmacological options, including psychosocial and/or psychological interventions, should be encouraged and pursued where appropriate, e.g. regular physical activity, cognitive behavioural therapy
- Review effectiveness, tolerability and compliance on an ongoing basis
- Any reduction/stop should be gradual to minimise discontinuation effects
- The 7-Steps review process should be used for all medication reviews
- Individuals can be identified using the Scottish Therapeutics Utility (STU) in GP practice

Notes:

- This indicator includes all medicines in BNF legacy sub section 4.1.1 and 4.1.2 including benzodiazepines, z-drugs, buspirone and meprobamate but excluding melatonin.
- Formulations excluded from NTI: injectables, suppositories, enemas.

NTI: Melatonin defined daily doses (DDDs) per 1,000 list size population per day (all age groups)

This indicator is intended to support health boards and prescribers to ensure appropriate use of melatonin. Melatonin is currently licensed for:

- short term use for insomnia in adults 55yrs and over, for up to 13 weeks
- jet lag for up to five days duration
- insomnia in individuals with learning difficulties and behaviour that challenges (where sleep hygiene measures have been insufficient), initiated under specialist supervision

Prescribing has been increasing within board regions in both adults and children prescribing.

Actions:

- Health boards and prescribers to ensure appropriate use of melatonin, considering licensed indications and duration of therapy
- Promote person-centred reviews, with appropriate continuation, reduction or stopping of melatonin
- The 'What matters to you' approach should assist the individual to achieve goals which have been identified and developed in partnership with clinicians.
- Non-pharmacological options, e.g. regular physical activity, cognitive behavioural therapy, sleep hygiene measures
- NHS Inform: Sleep problems and insomnia self-help guide
- Review effectiveness, tolerability and compliance on an ongoing basis
- The 7-Steps review process should be used for all medication reviews
- Individuals can be identified using the Scottish Therapeutics Utility (STU) in GP practices.

Notes:

1. Formulations excluded from NTI: injectables, suppositories, enemas.
2. Identifying different age groups;
    a. STU allows sorting by age to allow review of appropriate duration of therapy and formulation choice.

NTI: All people prescribed an antidepressant (all) in combination with a long-term benzodiazepine or z-drug (>8 weeks) as a proportion of people prescribed an antidepressant (BNF section 4.3)

Benzodiazepines and/or z-drugs (B-Z) are sometimes prescribed to treat:

- anxiety and/or insomnia symptoms prior to starting an antidepressant for depression or anxiety
- symptoms of poorly controlled depression, anxiety or back pain
- agitation, anxiety or insomnia symptoms associated with starting a selective serotonin reuptake inhibitor (SSRI)
- avoidable adverse drug effects such as insomnia and/or agitation caused by higher SSRIs doses

This can lead to regular long-term (≥8 weeks) B-Z use, sometimes lasting for years.

B-Z only demonstrate marginal benefits for short-term relief of insomnia and some anxiety disorders.

Long-term chronic use is:

- contrary to good practice, guidance, and terms of the licence
- known to worsen depressive symptoms, cause cognitive dysfunction and other avoidable adverse effects
- known to reduce the efficacy of some psychological therapies

Therefore the prescribing of B-Z should generally be limited to short-term use with regular review.

There should be a low level of prescribing for this indicator.

Actions:

- Health boards and prescribers to ensure appropriate use of B-Z in conjunction with antidepressants; promoting person-centred reviews, and appropriate continuation, reduction and stopping of them
- The 'What matters to you' approach should assist the individual to achieve goals which have been identified and developed in partnership with clinicians
- The long-term B-Z should be reviewed first
    - where appropriate gradually withdraw using an agreed structured and planned reduction schedule
    - a small minority of individuals may require longer-term B-Z treatment with regular review to optimise care and minimise street/illicit B-Z use
- Non-pharmacological options, including psychosocial and/or psychological interventions, should be encouraged and pursued where appropriate, e.g. regular physical activity, cognitive behavioural therapy
- Any reduction/stop should be gradual to minimise discontinuation effects

- Review effectiveness, tolerability and compliance on an ongoing basis
- The 7-Steps review process should be used for all medication reviews
- Individuals can be identified using the Scottish Therapeutics Utility (STU) in GP practices

Notes:

1. Formulations excluded from NTI: injectables, suppositories, enemas
2. For tools (NTI) using more than eight weeks avoids 56-day prescribing
3. BNF section 4.3 includes tricyclic and related antidepressants, monoamine-oxidase inhibitors, SSRIs, other antidepressant medication
4. This indicator may trigger individuals prescribed low dose amitriptyline which may be indicated for pain. However these individuals should still be reviewed due to the duration of the B-Z prescribing, especially if prescribed to manage symptoms associated with back pain.

NTI: Adults (18+) prescribed a benzodiazepine or z-drug (B-Z) long term (>8 weeks) as a proportion of people prescribed a benzodiazepine or z-drug

Benzodiazepines and/or z-drugs (B-Z) demonstrate limited therapeutic effects for the short-term (e.g. less than two weeks) treatment of insomnia and some anxiety disorders (e.g. generalised anxiety disorder, panic disorder). For the vast majority, long-term use of B-Z raises the risk of harm and is contrary to current clinical guidelines and drug licensing, as B-Z are licensed for a maximum of four weeks only. B-Z use is associated with tolerance, dependence and avoidable drug-related harms. These harms include but are not limited to:

- cognitive dysfunction (confusion, impaired concentration, memory impairment, impaired ability to drive and increased accidents)
- falls, and associated increased risk of hip fractures
- depressive symptoms
- paradoxical effects i.e. disinhibition, anxiety and impulsivity

Therefore the prescribing of B-Z should generally be limited to short-term use with regular review.

There should be a low level of prescribing of hypnotics and anxiolytics for this indicator.

Actions:

- Health boards and prescribers to ensure appropriate use of B-Z; promoting person-centred reviews, and appropriate continuation, reduction and stopping of them
- The 'What matters to you' approach should assist the individual to achieve goals which have been identified and developed in partnership with clinicians

- Non-pharmacological options, including psychosocial and/or psychological interventions, should be encouraged and pursued where appropriate, e.g. regular physical activity, cognitive behavioural therapy
- Review effectiveness, tolerability and compliance on an ongoing basis
- Any reduction/stop should be gradual to minimise discontinuation effects
- The 7-Steps review process should be used for all medication reviews
- Individuals can be identified using the Scottish Therapeutics Utility (STU) in GP practices

Notes:
Formulations excluded from NTI: injectables, suppositories, enemas.

NTI: People resident in a care home aged 50 years and over prescribed a benzodiazepine or z-drug as a proportion of people resident in a care home aged 50+ in receipt of any medication

Up to one in eight older adults in Scotland receive one or more benzodiazepines and/or z-drugs (B-Z) prescription annually, and care home residents are twice as likely to receive these medicines than non-care home residents.

Older adults and/or those with frailty are more susceptible to the adverse effects and harms of B-Z:

- cognitive dysfunction (i.e. confusion, impaired concentration, memory impairment, impaired ability to drive, increased accidents)
- falls and associated increased risk of hip fractures and hospitalisation
- depressive symptoms
- paradoxical effects i.e. disinhibition, anxiety and impulsivity

They may also experience liver impairment and/or reduced kidney function which can reduce B-Z excretion, increasing the effective dose, which may increase the risk of adverse effects.

Therefore proactively reviewing, reducing and stopping B-Z will help to reduce avoidable B-Z-related harms.

This indicator should have a low percentage, indicating alignment with current best practice prescribing guidance.

Actions:

- Health boards and prescribers to ensure appropriate use of B-Z; promoting person-centred reviews, and appropriate continuation, reduction and stopping of them
- The 'What matters to you' approach should assist the individual to achieve goals which have been identified and developed in partnership with clinicians

- Non-pharmacological options, including psychosocial and/or psychological interventions, may be less suitable for some care home residents, however there should be awareness of stress and distress in dementia - symptoms of anxiety and agitation which may be precipitated by physical conditions, e.g. constipation, pain, infection. (See Alzheimer Scotland report 'Understanding stress and distress in dementia'[89]
- Review effectiveness, tolerability and compliance on an ongoing basis.
- Any reduction/stop should be gradual to minimise discontinuation effects.
- The 7-Steps review process should be used for all medication reviews.
- Individuals can be identified using the Scottish Therapeutics Utility (STU) in GP practices

Notes:

- Formulations excluded from NTI: injectables, suppositories, enemas.
- There is no care home flag in STU. Accurate results rely on practice coding.

NTI: Mental Health Triple Whammy – All people in receipt of three or more of benzo/ z-drug, strong opioid (including tramadol), gabapentinoid, antidepressant, antipsychotics (excluding levomepromazine 6mg tabs or injections) per 1,000 list size

The combination of three or more of these medications increases the risks of medicine related harm. Prescribers should consider the 'benzo-burden' – the total benzodiazepine-type drug load prescribed per day – as benzodiazepines, z-drugs and gabapentinoids have similar synergistic effects: sedation, respiratory depression, etc. These may interact with an individual's conditions to cause more adverse effects and avoidable medicine related harms e.g. increased breathlessness, fatigue, respiratory depression which can be potentially fatal.

- Opioids: The effects of B-Z and the 'benzo-burden' can be further be exacerbated by the addition of a range of opioids, and even reduce the protective ceiling effects of buprenorphine. MHRA advice is only prescribe B-Z and opioids together if there is no alternative and closely monitor individuals for signs of respiratory depression.
- B-Z use with antipsychotics is associated with a higher mortality risk for people with schizophrenia.
- B-Z use with antidepressants: the use of SSRIs, and particularly high dose SSRIs for the treatment of depression. This may cause more avoidable adverse effects and harms such as anxiety, agitation and insomnia. However, B-Z is also associated with an increased incidence of depressive symptoms, so reviewing and reducing B-Z use may help to optimise care and recovery.

People who report/present with street/non-prescribed B-Z use, often set within the context of polysubstance use, are arguably at greatest risk of combination effects.

This indicator should have a high percentage, indicating alignment with current best practice prescribing guidance.

Actions:

- Health boards and prescribers to ensure appropriate use of B-Z in conjunction with other medication; promoting person-centred reviews, and appropriate continuation, reduction and stopping
- The 'What matters to you' approach should assist the individual to achieve goals which have been identified and developed in partnership with clinicians
- The long-term B-Z should be reviewed.
    - where appropriate gradually withdraw using an agreed structured and planned reduction schedule
    - a small minority of individuals may require longer-term B-Z treatment with regular review to optimise care and minimise street/illicit B-Z use
- Consider pain management and ensure valid indication for analgesia, e.g. neuropathic pain, nociceptive pain. If no ongoing indication for opioid or gabapentinoids, reduce gradually to prevent withdrawal
- Review duration of treatment for depression, and if ongoing need. If none, reduce gradually to prevent discontinuation effects
- Non-pharmacological options, including psychosocial and/or psychological interventions, should be encouraged and pursued where appropriate, e.g. regular physical activity, cognitive behavioural therapy
- Review effectiveness, tolerability and compliance on an ongoing basis
- The 7-Steps review process should be used for all medication reviews
- The Scottish Drug Deaths Taskforce and Public Health Scotland's: Medication Assisted Treatment (MAT) standards informed response for benzodiazepine harm reduction guidance:
    - highlights that everyone has a responsibility to respond to B-Z related harms and to have supportive, collaborative conversations regarding B-Z
    - supports a comprehensive, holistic assessment of need to develop a psychological formulation of the presenting issues to inform highly intensive, flexible and individualised care plans
    - supports addition of psychological components of care, to support harm reduction and stabilisation
- Individuals can be identified using the Scottish Therapeutics Utility (STU) in GP practices

Notes:

1. Levomepromazine not included as generally used in palliative care.
2. Opioids include: buprenorphine, fentanyl, morphine, oxycodone (with/without naloxone), pentazocine, tapentadol, hydromorphone, pethidine, methadone, tramadol (with/without paracetamol)
3. Benzodiazepines and z-drugs include: Diazepam, Chlordiazepoxide, clonazepam, loprazolam, lorazepam, lormetazepam, oxazepam, nitrazepam, temazepam, alprazolam, clobazam, flurazepam, zolpidem, zopiclone, zaleplon

Formulations excluded: injectables (B-Z and opiate pain medicines), suppositories and enemas (benzodiazepines).

NTI: Diazepam tablet 2mg items as a proportion of all diazepam tablet items

Historically 5mg and 10mg tablets have enabled people to take higher doses with fewer tablets and have been desirable for those using substances illicitly. Due in part to these issues the National Therapeutic Indicators for Scotland advise that where diazepam is required that the 2mg tablets are the preferred choice when prescribing. Do not prescribe 5mg or 10mg strength of diazepam tablets due to their black-market value.

This indicator should have a high percentage, indicating alignment with current best practice prescribing guidance.

Actions:

- Health boards and prescribers to ensure appropriate use of B-Z; promoting person-centred reviews, and appropriate continuation, reduction and stopping of them
- The 'What matters to you' approach should assist the individual to achieve goals which have been identified and developed in partnership with clinicians
- Non-pharmacological options, including psychosocial and/or psychological interventions, should be encouraged and pursued where appropriate, e.g. regular physical activity, cognitive behavioural therapy
- Review effectiveness, tolerability and compliance on an ongoing basis
- Where continued prescribing of diazepam is necessary, where possible convert to equivalent dose in 2mg tablets
- Any reduction/stop should be gradual to minimise discontinuation effects
- The 7-Steps review process should be used for all medication reviews
- Individuals can be identified using the Scottish Therapeutics Utility (STU) in GP practices

Notes:

- Formulations only include tablets, and exclude injectables, suppositories, enemas

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