"Living in the Madness"

People Who Use Benzodiazepines in Tayside

A Health Needs Assessment

NHS Tayside

“Living in the Madness”: People Who Use Benzodiazepines in Tayside

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Dr Jacob Asplin

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Correspondence to Dr Kirsty Licence
kirsty.licence@nhs.scot

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List of Abbreviations

NHS	National Health Service
MAT	Medication assisted treatment
MIST	MAT Implementation Support Team
DRD	Drug-Related Death
UK	United Kingdom
GABA	Gamma amino-butyric acid
BNF	British National Formulary
GP	General Practitioner
ICD	International Classification of Diseases 10th Revision
CNS	Central Nervous System
SDF	Scottish Drugs Forum
EMCDDA	The European Monitoring Centre for Drugs and Drug Addiction
OST	Opioid Substitution Therapy
MHRA	Medicines and Healthcare products Regulatory Agency
IPV	Inter-Personal Violence
NPS	New (or novel) Psychoactive Substances
MDR	Misuse of Drugs Regulations 2001
MDA	Misuse of Drugs Act 1971 / 3,4-Methylenedioxyamphetamine
ACMD	Advisory Council on the Misuse of Drugs
DDTF	Drug Deaths Task Force
NFOD	Non-Fatal Overdose
ISD	Information Services Division
PHS	Public Health Scotland
CJSW	Criminal Justice Social Work
SCJS	Scottish Crime and Justice Survey
PIS	Prescribing Information System
DDD	Defined Daily Doses
WHO	World Health Organization
SALSUS	Scottish Schools Adolescent and Lifestyle Substance Use
SDMD	Scottish Drug Misuse Database
DATWT	Drug and Alcohol Treatment Waiting Times
FY	Financial Year
CJS	Criminal Justice System
PWID	People Who Inject Drugs
IEP	Injection Equipment Provision
MDMA	3,4-Methylenedioxymethamphetamine
NRS	National Records of Scotland
TDDRG	Tayside Drug Deaths Review Group
TSUS	Tayside Substance Use Services
SAS	Scottish Ambulance Service
SMR	Scottish Morbidity Record
ADP	Alcohol and Drug Partnership
EASR	European Age Standardised Rate
SIMD	Scottish Index of Multiple Deprivation
DSOC	Drug Seizures and Offender Characteristics
SBR	Scottish Birth Record
SPS	Scottish Prison Service
APT	Addiction Prevalence Testing
HMP	His Majesty's Prison
EBE	Expert-by-experience
TSO	Third Sector Organisation
CBT	Cognitive Behavioural Therapy
GDR	Gradual Dose Reduction
MI	Motivational Interviewing
TAU	Treatment as Usual

Executive Summary

Of the 1,330 drug-related deaths (DRDs) in Scotland in 2021, more than 900 involved the use of a benzodiazepine. Tayside had the second highest proportion of DRDs that involved such drugs. This health needs assessment aimed to describe both the quantitative and qualitative nature of benzodiazepine use and its associated harms in Tayside, identify who has the most capacity to benefit from service change or improvement, and what the health needs of this population are. This was conducted using a tripartite approach: an epidemiological assessment using both routinely-collected and bespoke regional data, a corporate assessment of the views and opinions of both professional and lived experience experts, and a comparative assessment of the current evidence base for approaches to problem benzodiazepine use.

This assessment has demonstrated that most DRDs in Tayside involve the use of a benzodiazepine, the vast majority of which involve at least one 'street' benzodiazepine, and that most of these involve etizolam. It has also revealed that no more than 2% of the 295 benzodiazepine-related deaths occurring between 2018 and 2021 in Tayside could be linked to the deceased's own prescription benzodiazepine. Further, all of these deaths involved the use of at least one other class of drugs. The adverse outcomes associated with benzodiazepines, similar to many substances, are concentrated in areas of deprivation, in early- to mid-adulthood, and in males. Yet males are comparatively less engaged with specialist services than females.

The physical health needs of people who use benzodiazepines are mostly related to the degree of pharmacological dependence, and therefore intensity of withdrawal syndromes, that has developed owing to prolonged and high dose use. Yet there are very few, if any, treatment options available. There is a demand for 'benzodiazepine substitution therapy', analogous to that provided for people who use opioids, both in the community and as part of a residential programme. The lack of these options is perceived as an illogical injustice given the treatment options available for opioid and alcohol dependence. The status quo of self-managed downward tapering of 'street' benzodiazepine use, albeit with harm reduction support from the third sector, is seen as unrealistic whilst 'living in the madness' of problem drug use.

People who use benzodiazepines consider underlying psychological trauma as a causal factor in their dependence. Yet the mental health needs of this population remain largely unmet owing to their under-appreciation, a scarcity of resources, and the paradoxical requirement of stability of illicit drug use as a prerequisite to access statutory mental health services. The absence of a benzodiazepine-specific support group, in the context of other substance-specific services, is viewed as a further inequality.

The harms extend beyond health. Reports of 'street' benzodiazepine use triggering extreme changes in personality and out-of-character violent acts, often with significant memory loss, are concerning. The social consequences of such effects include custodial sentences and important personal relationship breakdown. An analysis of the effects on families, children and other dependents remains a future research need. The pervasive effects of stigma, particularly in clinical settings, persists.

The evidence base for the treatment options for benzodiazepine dependence and withdrawal is lacking in both quality and depth, particularly for pharmacological interventions. However, absence of evidence is not evidence of absence, and the scale of benzodiazepine-related harms in Tayside provides an opportunity for local and regional researchers and clinicians to be at the leading edge of developing new approaches.

Action is needed. The first step is recognition of the problem. The current focus of recovery-oriented services on opioids and alcohol, with a relative neglect of the role of benzodiazepine use, is no longer supported by the epidemiological evidence. Indeed, current service provision appears to be designed for a pattern of drug use that is now several years out-of-date. A change in mindset, even in organisational culture, may be required in order to appreciate and respond to the now distinctly polydrug nature of substance use in Tayside.

Recommendations

- **Adopt a change management approach to realign service provision to new patterns of substance use**. The current focus of services on opioids and alcohol, with a relative neglect of the role of benzodiazepine use, is no longer supported by the epidemiological evidence. Indeed, current service provision appears to be designed for a pattern of drug use that is now several years out-of-date.
- **Enable and promote access to substance use services for people who use benzodiazepines as their main or only drug**. The current scenario of specialist support for problem benzodiazepine use, including detoxification prescriptions, being dependent on co-existing problem opioid or alcohol use amounts to an inequity in access to healthcare.
- **Improve access to psychiatry, counselling, and psychological therapies with a focus on early intervention**. High rates of psychiatric comorbidities and experiences of underlying and neglected trauma point to the existence of an unmet mental health need. Training of the wider workforce in appropriate low-intensity interventions could mitigate the lack of resources in the short-term.
- **Explore the role of residential rehabilitation in the management of 'street' benzodiazepine dependence**. The status quo of advising self-managed gradual dose reductions of 'street' benzodiazepines at home is not working, especially for people 'living in the madness' of problem drug use. At the time of writing, there is an inpatient admission planned for just one patient with primary benzodiazepine dependence. More will be required to determine the success of this approach.
- **Expand the programme of assertive outreach, targeting the most under-served and at-risk demographics.** The success of the non-fatal overdose pathway should encourage further assertive outreach action. Further original and innovative approaches are required, focussing on prevention and the proximal origins of problem benzodiazepine use.
- **Focus on gender-associated variation in access and outcomes for specialist substance use services**. The greater proportion of deaths yet lower engagement with services amongst men demands urgent attention, alongside the particular needs of women in order to achieve positive outcomes.
- **Consider formalising the line of communication between clinicians in the specialist statutory services and professionals in the third sector.** The degree of cooperation and flow of information between clinicians and support workers is currently individual-dependent. A formal link would encourage the provision of advice to those who are providing low-intensity but high-frequency interventions on the 'front line' and the provision of useful information on a client's progress in the opposite direction.
- **Establish a benzodiazepine-specific community recovery group.** A specific group, focussed on the experiences of people who use benzodiazepines, would facilitate the sharing of harm reduction best practice and mitigate against the current lack of available treatment options alongside the psychosocial benefits of bringing people with similar experiences together in a safe, trauma-informed environment.
- **Take an active role in the generation of evidence for both psychosocial and pharmacological interventions for problem benzodiazepines use, including collaboration with international partners**. The prevalence of benzodiazepine-related harms in Tayside, as well the high demand for new treatment options, provides fertile ground for clinical research. This opportunity should not be wasted.
- **Eradicate stigma from clinical environments.** Stigma continues to affect people who use substance use services and results in changes to health-seeking behaviour. The solutions cannot be dictated from within; they lie with the people who experience this stigma. Their ideas include educating clinical and support staff on how benzodiazepines affect the people who use them, placing peer workers within clinical environments, and improving communication and explanation of management decisions.

1. Introduction

1.1 Background

Drug-related deaths (DRDs) remain high in Scotland. Worryingly, this rise has accelerated in recent years. Between 1996 and 2008, DRDs increased at an average rate of 8% per year whereas between 2013 and 2018 this yearly rate of increase was 18%.[1] In 2019, Scotland had the highest recorded rate of DRDs of any nation in Europe, a rate that was more than 3½ times higher than for the United Kingdom as a whole.[2] Accordingly, there have been calls for the recognition of a national public health crisis.[3 4] More than 900 of the 1,330 DRDs recorded in Scotland in 2021 involved the use of benzodiazepines, representing some 69% of these deaths.[1] This tells of the sharp rise seen over the last five years; prior to 2016 benzodiazepines were implicated in fewer than 200 deaths annually (see Figure 1.1).[1]

The regional burden of harm in Tayside contributes much to the wider national picture. Between 2017 and 2021, Tayside had the third highest rate of DRDs of all NHS Scotland territorial health boards, behind only Greater Glasgow & Clyde and Ayrshire & Arran, whilst Dundee City had the highest rate of any local authority area in the whole of Scotland.[2] In 2021, Tayside had the second highest proportion of DRDs that involved benzodiazepines of any health board area.[1] This national and regional pattern of benzodiazepine-related harm was the impetus behind this health needs assessment.

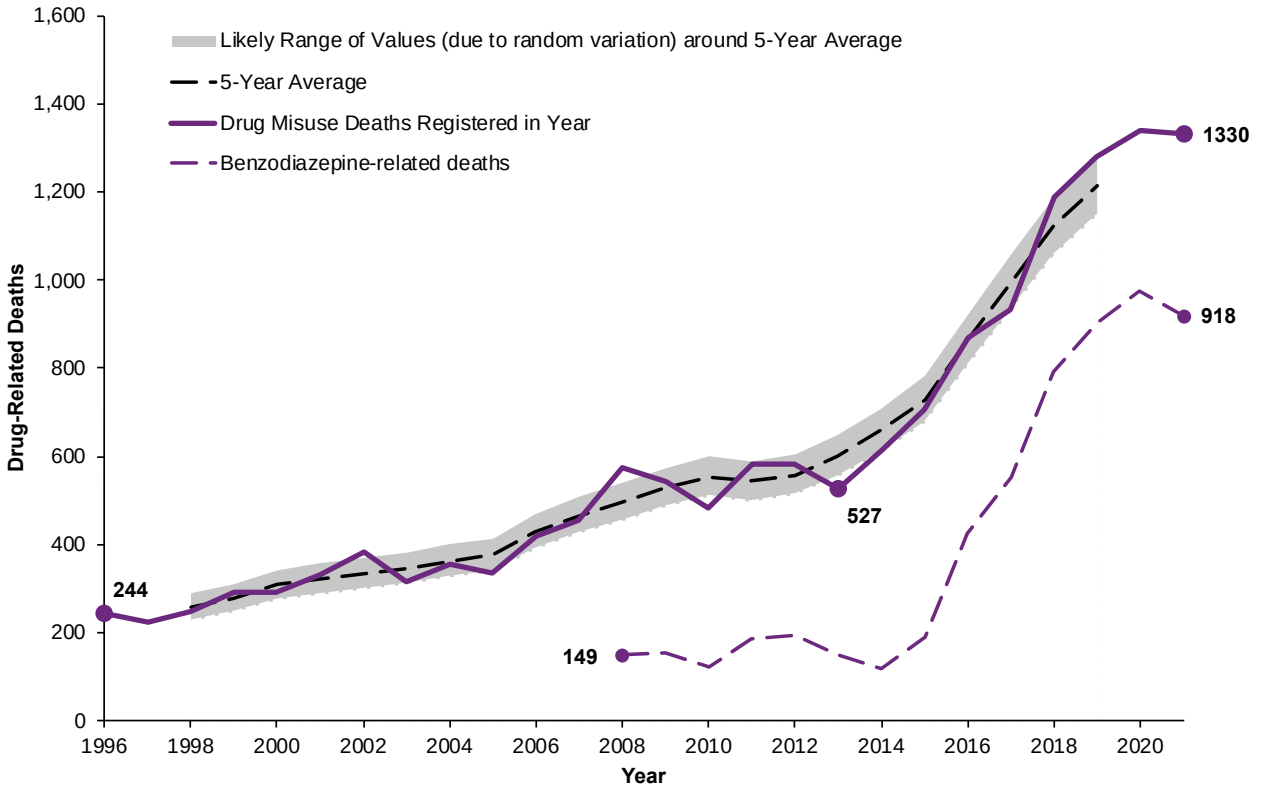

Figure 1.1. Number of drug-related deaths in Scotland, 1996 to 2021 (Source: National Records of Scotland[1]).

1.2 Aims, objectives and scope

1.2.1 Aims

This project aimed to describe the health needs of people who use benzodiazepines in Tayside in order to inform future service provision and planning.

1.2.2 Objectives

- Conduct a background narrative review of the history of benzodiazepine use in Scotland.
- Identify and collate existing routinely collected data sources, both national and regional, to describe the scale of benzodiazepine use and its associated health and social harms, performing bespoke analysis of these data where necessary.
- Consult a range of relevant stakeholders, including members of the Tayside community who use benzodiazepines as well as both statutory and third sector service providers, to illustrate the experience of problem benzodiazepine use in the context of local service provision.
- Conduct a rapid review of the published literature to explore the strength of evidence of existing and novel treatment strategies for people with problem benzodiazepine use.
- Make recommendations based on the findings of the above in order to inform local policy- and decision-makers in their future service provision and planning.

1.2.3 Scope

Although the use of benzodiazepines has the potential to affect the health and social wellbeing of the wider community, particularly close family and friends, this assessment focussed on the needs of the people who use benzodiazepines themselves. Given the time and resource constraints of this project, a greater emphasis was placed on their outcomes, experiences and needs, rather than the views and opinions of other interested stakeholders or a thorough evaluation of the performance of current services. Further, resources have not allowed for an economic analysis of current or potential services and their ability to meet the needs identified in this assessment, this is therefore identified as a future study requirement.

The geographical scope includes the three local authority areas that comprise the NHS Scotland territorial board area of Tayside, namely Angus, the City of Dundee, and Perth & Kinross. This board serves a total population of 417,650, according to the National Records of Scotland mid-year population estimate for 2021.[5]

1.3 Methods

1.3.1 Need

Need is a multi-faceted concept that lacks one universal definition and interacts with, but is separate from, the concepts of both supply and demand. A frequently adopted approach to conceptualising need, particularly within the NHS, is to consider it as 'the capacity to benefit'. This depends on both on the scale of morbidity, in this case the harms associated with benzodiazepine use, and the effectiveness of interventions and care.[6]

Bradshaw, in his 'A taxonomy of social need', defines four types of need which will be considered in the context of this health needs assessment.[7] These are:

- Normative need: the need as defined by expert or professional judgement.
- Felt need: the perceived need of the individual i.e. want.
- Expressed need: a felt need turned into action i.e. demand.
- Comparative need: the need of a group not in receipt of a service that a similar group receives.

1.3.2 Health Needs Assessment

A health needs assessment is 'a systematic method of identifying unmet health and healthcare needs of a population and making changes to meet these unmet needs.'[8] It includes a quantitative approach to enumerate the size and scale of the problem alongside a qualitative assessment of the nature and meaning of the problem from the perspective of those who experience it.

A traditional approach, adopted for this health needs assessment, is to perform three parallel assessments[9]:

- Epidemiological assessment: collating and triangulating multiple sources of data to describe the time, place, and persons who are affected by the problem.
- Corporate assessment: ascertaining the views and opinions of a range of interested parties through a period of stakeholder consultation and community engagement.
- Comparative assessment: identifying existing and emerging approaches to meet the needs of the problem in different populations.

This health needs assessment is therefore presented in three main sections: a descriptive epidemiological profile (the epidemiological assessment), a qualitative report following a period of stakeholder engagement (the corporate assessment), and a rapid review of the published literature (the comparative assessment).

2. Narrative Review

2.1 What are benzodiazepines?

Benzodiazepines are a group of drugs that were first chemically synthesised by the Austrian scientist Leo Sternbach in the United States during the mid 1950s, the first of which to reach the market was chlordiazepoxide (as Librium) in 1960, closely followed by the now ubiquitous diazepam (as Valium) in 1963, with many more following later.[10 11] These drugs almost entirely displaced the use of barbiturates, a related class of drugs, from clinical practice in the UK owing to a lower risk of respiratory depression, and therefore fatality in overdose, as well as a perceived lower likelihood of dependence.[11 12]

Benzodiazepines exert their effects through augmenting the action of a neurotransmitter, a natural chemical that aids in the transmission of messages between brain cells, called gamma-aminobutyric acid (GABA).[11 13] GABA is an inhibitory neurotransmitter, meaning that it typically suppresses neuronal activity, slowing down or stopping the transmission of messages in the brain, and therefore has a 'general quietening influence.'[13 14] This is reflected in the desired therapeutic effects: anxiolytic (relief of anxiety), hypnotic (promotion of sleep), myorelaxant (muscle relaxation), anticonvulsant (termination of fits or seizures), and amnesic (the impairment of short-term memory).[14] Situations in which they have clinical use follow logically: anxiety and panic disorders, insomnia, muscle spasms, epilepsy, sedation or premedication for minor procedures and operations, and in the treatment of alcohol withdrawal.[14-16]

There are currently 14 drugs in the class of benzodiazepines that are licensed for prescription in the UK.[17] These agents differ in their pharmacokinetic and pharmacodynamic properties in terms of relative potency, the time to onset of therapeutic or adverse effects, and the duration of these effects.[18] In simple terms, this divides benzodiazepines into long-acting drugs such as diazepam and chlordiazepoxide, intermediate-acting drugs such as lorazepam, and short-acting drugs such as oxazepam and midazolam.[14]

Most benzodiazepines are ingested as oral tablets although, for the less common indications, intramuscular and intravenous injections, rectal suppositories, and buccal formulations are available. According to the British National Formulary (BNF), each individual drug is indicated only in certain conditions and under certain circumstances although, importantly, not necessarily as the first-line option in each case.[17] These indications include:

- Anxiety: diazepam, alprazolam, chlordiazepoxide hydrochloride, clobazam, lorazepam, oxazepam.
- Insomnia: nitrazepam, flurazepam, loprazolam, lormetazepam, temazepam.
- Insomnia associated with anxiety: diazepam, oxazepam.
- Alcohol withdrawal: chlordiazepoxide hydrochloride, diazepam.
- Epilepsy or convulsions: clobazam, clonazepam, diazepam, lorazepam, midazolam.
- Panic disorders: clonazepam, diazepam, lorazepam.
- Muscle spasm (various aetiologies): diazepam.
- Pre-medication or sedation: diazepam, lorazepam, midazolam, remimazolam, temazepam.

The evidence for the use of benzodiazepines in a variety of other possible indications has been deemed insufficient to recommend them for clinical use; these conditions include schizophrenia, restless legs syndrome, delirium, and psychosis-induced aggression or agitation.[19-22]

Prescribing benzodiazepines for such conditions is considered off-label prescribing i.e. 'when used outside the terms of its marketing authorisation, for example, by indication, dose, route or patient population.'[23] The extent of off-label prescribing of benzodiazepines in the UK is unclear, although it may be particularly prevalent in specialist psychiatric facilities.[24] Evidence from Germany suggests a similar picture, whilst in Spain the vast majority of off-label benzodiazepine prescriptions are due to the length of the prescription

(see Section 2.2.3).[25 26] A study from the North of England suggested that 0.69% of all GP-registered patients were taking hypnotic medications for more than one year, far longer than the recommended two-to-four weeks, translating to a very large amount of off-label prescribing at population scale.[17 27]

2.2 The adverse effects of benzodiazepines

2.2.1 Side effects

Given the mechanism of action and intended uses, the side effect profile of benzodiazepines is somewhat predictable, albeit variable across the array of different agents according to their differing pharmacokinetics. Loosely, these side effects comprise a subjective feeling of sedation and an objectively measurable impairment in cognitive and psychomotor function.[28] Commonly observed effects therefore include decreased alertness, drowsiness and sleep disorders, agitation, confusion and memory problems, as well as ataxia, tremors and visual disorders whilst respiratory depression can occur with very high doses or intravenous use.[17] Given this list of side effects, it is not surprising that certain secondary harms have been associated with benzodiazepine use. These include, but are not limited to, minor injuries, cognitive failures and road traffic accidents.[29-32] Respiratory arrest and death, although possible in isolated benzodiazepine toxicity, is more likely to occur with the co-ingestion of other depressants such as alcohol or opioids.[33]

A much less common side effect is the so-called 'paradoxical reaction' that has been observed with benzodiazepines since very early in the history of their clinical use.[34] Occurring in less than 1% of patients, most paradoxical reactions are idiosyncratic and, as the term suggests, involve excitatory rather than depressant effects such as talkativeness, emotional release, excessive movement, hostility and rage.[35] The extremes of age, co-existing alcohol dependence, genetics, and psychiatric disturbances appear to be predisposing factors although the underlying mechanisms remain unclear.[35 36] The concern that such disinhibited behaviour may lead to violent acts including assault (and even homicide) has been acknowledged.[14 36]

2.2.3 Tolerance, dependence and withdrawal

Long-term use of benzodiazepines presents the nexus of additional risks relating to tolerance, dependence and withdrawal. Tolerance describes the situation in which an individual requires an escalation in dose in order to achieve the same intended effects.[37] 'Dependence syndrome' and 'withdrawal state' have specific definitions which are worth quoting in full from the International Classification of Diseases (ICD-10):

- Dependence syndrome: a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.[38]
- Withdrawal state: a group of symptoms of variable clustering and severity occurring on absolute or relative withdrawal of a psychoactive substance after persistent use of that substance. The onset and course of the withdrawal state are time-limited and are related to the type of psychoactive substance and dose being used immediately before cessation or reduction of use. The withdrawal state may be complicated by convulsions.[38]

This constellation of adverse effects was recognised at least as early as the 1980s by long-term users of benzodiazepines themselves with later controlled trials demonstrating that withdrawal symptoms could occur even following therapeutic doses, thus indicating a level of dependence on the drugs.[39] This was formally recognised by the medical profession in 1988 with recommendations to restrict prescriptions to no

longer than four weeks in anxiety and for intermittent use only in insomnia, for use only when symptoms are severe and disabling or extremely distressful, for use at the minimum possible dosage necessary to achieve the desired effects, and to always gradually taper off the treatment.[40] This guidance remains in place to this day and is repeated almost verbatim in the current issue of the BNF.[17]

Tolerance to benzodiazepines appears to occur at different speeds to the different effects.[39 41] Tolerance can occur within days for the hypnotic effects and over several weeks to the anticonvulsant and myorelaxant effects, whereas tolerance to the anxiolytic properties develops more slowly over several months at which point continued use likely represents the avoidance of withdrawal symptoms rather than treating anxiety itself.[39] Perhaps more concerningly, tolerance to both the amnesic effects and cognitive impairment appears absent and can result in ongoing long-term impairments.[42-44]

Dependence and the withdrawal state are closely linked; the key sign of dependence being the development of withdrawal symptoms when the dose is reduced or stopped altogether.[14] Other signs of dependence can be inferred despite continued use such as a reliance on regular repeat prescriptions, unsuccessful attempts to reduce or stop dosing, continued high levels of anxiety despite dosing and, in close relation to tolerance, escalation of the dose.[45]

The withdrawal state is highly variable but usually includes features of anxiety, sensory intolerance, perceptual disturbances and often weight loss.[14 46] This can include certain characteristic symptoms such as hypersensitivity to light and sound, tinnitus, feelings of 'electric shocks', tremors and myoclonic jerks, and perceptual changes such as a feeling of motion or impressions of the walls and floors tilting.[14 47 48] Withdrawal states are more likely to occur in chronic use (e.g. longer than four months), when higher doses are used, when a short-acting drug is used, and when the drug is stopped suddenly.[49 50] The course of this withdrawal state is variable, with symptoms waxing and waning, and can last for many months.[51]

In addition to acute withdrawal, a post-withdrawal state has been described that is related to, but independent of, pharmacological dependence and may affect up to 10-15% of people withdrawing from long-term benzodiazepine use.[14] As well as including a protracted course of some of the acute symptoms described above, other neuropsychological effects are seen such as emotional blunting, depression, symptoms of post-traumatic stress, and memory and cognitive problems.[14 52 53] Of particular concern is the apparent lack of recovery of cognitive skills at least six months after successful withdrawal from benzodiazepines.[42 54]

2.2.5 Mortality

Death from an isolated overdose of benzodiazepines is rare.[55] The ensuing central nervous system (CNS) depression from toxic doses of benzodiazepines more commonly presents as rousable unconsciousness without significant physiological compromise.[33] Prominent symptoms correspond to the side effects (referred to in Section 2.2.1) and include ataxia, slurred speech, and altered mental status.[33] Respiratory depression, and the subsequent risk of mortality, is much more common when other substances such as alcohol or opioids are ingested concurrently (see Section 2.4).[33 56-58]

Abrupt discontinuation of benzodiazepine use also presents a risk to life through the precipitation of withdrawal seizures.[59-61] Such events are more likely in those who have taken benzodiazepines for a long time and at high doses although seizures have been observed in short courses and with recommended doses.[62 63]

Separate from situations of overdose and withdrawal, benzodiazepine prescriptions have been linked to substantially increased mortality rates even when accounting for the poor health of those in receipt of such

prescriptions.[64 65] However, other studies have not found the same alarming association and the wider evidence base examining the independent effect of benzodiazepines on mortality remains limited.[66-69]

2.3 *Problem drug use*

2.3.1 Terminology

The Scottish Drugs Forum (SDF) prefers the term problem drug use to other terms used widely in the literature that are considered derogatory and stigmatising such as 'abuse' or 'misuse'.[70] SDF state that problem drug use is 'where a person's substance use causes risk or harms to them or to other people and they persist in use and if it becomes intensive or compulsive.'[70]

2.3.2 Patterns and motivation

The liability of benzodiazepines to produce dependence and the associated withdrawal states points to their inherent potential to result in problem drug use. The literature suggests that this typically takes one of two patterns: sporadic use of benzodiazepines, often in high doses of illicit forms, in pursuit of the desired psychoactive effects outside of a recognised medical indication, or prolonged regular use owing to the development of dependence following treatment with benzodiazepines for, say, anxiety.[49 71] However, dependence and problem drug use do not necessarily co-exist.[49] For example, infrequent recreational use of illicit benzodiazepines may not be due to, or increase the risk of, dependency. Conversely, a person who has become dependent on benzodiazepines may not be using them in an intensive or compulsive manner but rather through necessity to avoid the adverse withdrawal effects.

The motivations to use benzodiazepines also fall broadly into two groups that are largely analogous to the above patterns: those seeking intoxication, and those seeking to self-medicate.[72] Whilst self-medicating with benzodiazepines to achieve the prescribed effects, namely in sleep disorders or anxiety, is the most common motive reported in the literature, those who use benzodiazepines in a more recreational manner also tend to display riskier drug-taking behaviour such as using higher doses, using illicit drugs, combining with other substances, and using non-oral routes of administration.[73 74] Recreational use is usually in pursuit of one or more forms of intoxication: relaxation and 'down time', to get 'high' or augment the effects of other substances, to alleviate the unpleasant effects of other substances, or to 'come down' from the effects of stimulants.[75-79]

In a more local context, ethnographic research from the east coast of Scotland has explored these patterns and motivations in some detail.[80] For the participants of this research, heroin was the most reported drug of dependence but co-ingestion of benzodiazepines was often an everyday occurrence. Motivations for this pattern of use included to ease stress, anxiety, loneliness, and painful or traumatic memories as well as to achieve a feeling of pleasure and fulfilment or relaxation and calm in the midst of leading a chaotic and volatile life. Alternatively, some reported purchasing benzodiazepines in order to self-detoxify from heroin or alcohol dependence. Whilst pleasurable physiological effects of polydrug use (see below) were reported, so were the severity of the side effects such as physical and psychological stress, hallucinations, nausea, and memory loss.[80] In the context of the COVID-19 pandemic, and given their ability to alter the perception of time, benzodiazepine use became more frequent or chaotic as a response to heightened feelings of anxiety, isolation, loneliness and boredom as well as the fluctuating and inconsistent supply of substances.[81]

2.4 Polydrug use

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) refers to polydrug use as 'the use of more than one drug or type of drug by an individual either at the same time or sequentially.'[82] This can pose multiple risks such as dangerous interactions between drugs, a greater risk of accident and injury, and a greater risk of fatal and non-fatal overdose. The most important interacting drugs that are commonly co-ingested alongside benzodiazepines are discussed here.

2.4.1 Opioids

Concurrent use of benzodiazepines and opioids, such as heroin, methadone or buprenorphine, is common in many parts of the world.[56] Reasons for this might include the potentiating effect that benzodiazepines have on opioids, the perceived benefit of both of these medications for chronic pain, and, as for benzodiazepines generally, self-medication of underlying mental health problems such as mood disorders and anxiety.[83-87]

Opioids depress respiration via a separate mechanism to that of benzodiazepines and so these drugs have additive inhibitory effects on breathing. Therefore, co-ingestion increases the risk of fatal respiratory depression.[88] There is mounting evidence that benzodiazepines contribute significantly to opioid-related deaths with one estimate suggesting the risk of death is 2.5 times higher when benzodiazepines are co-ingested compared to taking opioids alone.[89 90] Co-ingestion also makes it less likely that standard doses of naloxone, an opioid antagonist, will be able to reverse respiratory depression in the event of opioid overdose.[56] The life-threatening nature of this combination is reflected in the statistics presented in a comprehensive review by Jones et al in 2012: benzodiazepines were identified in 50-80% of heroin-related deaths, 40-80% of methadone-related deaths, and up to 80% of buprenorphine-related deaths.[56]

There are also less acute harms related to benzodiazepine and opioid co-ingestion. For example, it has been observed that people on opiate substitution therapy (OST) who also use benzodiazepines have poorer outcomes related to general health, legal problems, and alcohol use.[56 91] Similarly, this population is more likely to experience overdoses, be exposed to blood-borne viruses, report psychiatric comorbidities, and have longer periods of dependence on opioids than those not taking benzodiazepines.[73 92]

2.4.2 Alcohol

As both benzodiazepine and alcohol use are highly prevalent, the number of concurrent users of these substances can be reasonably assumed to be high.[93] Rates of benzodiazepine use are higher in people considered to have unhealthy alcohol use or alcohol dependence.[94-96] Unfortunately, these substances often produce adverse additive effects due to their common action in enhancing GABA-mediated responses in the CNS raising the risk of overdose.[97 98] Indeed, high doses of benzodiazepines are often used alongside alcohol in people with problem drug use to deliberately increase the intoxicating and sedative effects.[75] Similarly, the clinically meaningful anxiolytic effects of alcohol lead many anxious patients to self-medicate with alcohol, perhaps in addition to prescribed or illicit benzodiazepine use.[98]

Not only are the effects additive, but acute ingestion of alcohol may impair the clearance of certain benzodiazepines, prolonging their effects.[99] Conversely, chronic alcohol use increases clearance, possibly as a result of desensitisation, and may result in decreased therapeutic efficacy of benzodiazepines.[100] The additive effects of this combination have been observed even with therapeutic doses of benzodiazepines and in low blood alcohol concentrations suggesting a potential for negative consequences despite a low perception of risk.[101]

Predictably, several harms have been associated with alcohol and benzodiazepine combination use. For example, the enhanced sedation and psychomotor impairment can have disastrous consequences on driving ability and is associated with higher rates of road traffic collisions.[100-103] Combinations of benzodiazepines and either alcohol or opioids has also been linked to an increase in risk of serious outcomes following emergency department visits such as hospitalisation and, rarely, death.[104] This combination may also be particularly likely to result in the paradoxical reactions discussed above.[75] Excessive sedation and problems with coordination are of particular concern in older people given the changes in distribution and metabolism of both of these substances in advanced age.[105] Most concerningly, the risk of death is increased when benzodiazepines are consumed with alcohol, compared to when the drug is consumed in isolation.[106] The presence of alcohol and benzodiazepines in post-mortem forensic toxicology is common.[107]

2.4.3 Gabapentinoids

The gabapentinoid drugs, gabapentin and pregabalin, are antiepileptic drugs that are also used as treatment options in neuropathic pain and anxiety disorders.[17 108] They share similarities with benzodiazepines in that they act as CNS depressants via their effects on various neurotransmitters and may also result in sensations of dissociation, relaxation or euphoria, particularly in early use.[109-111] Gabapentinoids have similarly been associated with a constellation of adverse effects such as increased risks of suicidal behaviour, unintentional overdoses, physical injuries, and road traffic accidents and offences.[111]

From 2006 to 2016, prescriptions of gabapentin in Scotland increased four-fold with a greater rate of increase observed for prescriptions of pregabalin.[112] This is despite the now widely recognised potential for dependence, withdrawal, and ultimately problematic use.[113-115] Such problematic use may occur for reasons of recreation, self-medication or intentional self-harm and commonly co-exists in combination with the use of other substances especially opioids, benzodiazepines and alcohol.[116] The rate of co-prescription of a benzodiazepine in those who have received at least one prescription for a gabapentinoid in NHS Tayside and NHS Fife has been observed as greater than one in four.[112]

Whilst there is little literature on the specific effects of concomitant use of benzodiazepines and gabapentinoids, the BNF recognises that interactions between these drugs may impair the ability to perform skilled tasks, such as driving, owing to their common effects on CNS depression.[17] Furthermore, both gabapentin and pregabalin both carry warnings from the Medicines & Healthcare products Regulatory Agency (MHRA) due to the risk of causing severe respiratory depression, a risk which is logically additive to that of benzodiazepines.[117 118]

2.5 Vulnerable groups

2.5.1 Older people

The nervous system in older people is more sensitive to the effects of benzodiazepines and, according to the BNF, their use should be avoided in elderly patients due to the greater risk of adverse effects such as ataxia and confusion.[17] Consequently, the use of benzodiazepines has been linked to an increased risk of falls and up to a 50% increase in the risk of hip fractures in this population.[119-121]

There is a wealth of evidence that demonstrates an increased risk of dementia in older people who use benzodiazepines.[122-128] The causal mechanism of this relationship however remains unclear whilst other well-designed studies have failed to find the same effect.[128 129] Others have pointed to the potential of

reverse causation or protopathic bias i.e. the possibility that the early symptoms of what would later be diagnosed as dementia have in fact resulted in treatment with a benzodiazepine.[130]

Nevertheless, the increased risk of adverse events in the over-60s has led some to conclude that any benefit gained from treatment is outweighed by the cost in risks.[131] Therefore, it has been recommended that in this population only short-acting benzodiazepines are used and in small doses for only short periods of time.[132]

2.5.2 Women

In Scotland, women were 1.8 times more likely than men to be prescribed a benzodiazepine in 2019/20, with 6.3% of all adult females receiving such a prescription.[133] The reasons for gender differences in benzodiazepine consumption are multifactorial and incompletely understood. Male prescribers have been observed to be more likely to prescribe benzodiazepines, particularly to female patients.[134-136] Non-medical or illicit benzodiazepine use has been strongly associated with 'anxiety sensitivity' (a belief or fear that anxiety symptoms themselves have harmful consequences) in women but not men indicating a possible gender difference in motivation to use benzodiazepines.[137-139] In France, women appear more likely to have long-term benzodiazepine use compared to men, with gender interacting with age, socioeconomics and mental health factors.[140] Young women in Spain were observed to be more likely to have problem benzodiazepine use than young men.[141] In the US, problem benzodiazepine use was highly prevalent in both men and women being treated for other substance use disorders, although women were more likely to report greater anxiety, drug-craving, and benzodiazepine use as a coping strategy compared to men.[139]

A recognised driver of drug use that exhibits a particularly gendered pattern, being much more common in women, is experience of inter-personal violence (IPV). Rates of prescriptions for 'potentially addictive' medications, including benzodiazepines, have been observed as between two to four times higher in women with experience of IPV compared to other women, even after accounting for factors such as musculoskeletal pain, mental distress, and sleep problems.[142] Similarly, a history of IPV, child abuse, and adult sexual assault have all been linked to increased use of psychotropic medications.[143 144] Further, in a study of women experiencing recent partner violence victimisation, non-medical use of sedative-hypnotics and opiates was associated with cumulative exposure to IPV.[145]

Women also experience barriers to accessing, and remaining in, treatment differently to men.[146 147] In particular, women are more likely to report family responsibilities, relationship factors, mental health, and a higher degree of perceived stigma as barriers to accessing services when compared to men.[146 148] Traditional gender roles and motherhood, including the availability of childcare and the legal and social implications of drug use regarding child protection, are important additional factors related to treatment access for women.[147 149 150] Women are also more likely to have their initiation and continuation of their drug use, and access to treatment, controlled or influenced by their partners.[151]

Another vulnerability unique to women is the potential risk benzodiazepines pose during pregnancy. Whilst there appears not to be an additional risk to the mother, the BNF warns against regular use during pregnancy due to the risk of neonatal withdrawal symptoms and, if used in high doses late in pregnancy, a risk of neonatal respiratory depression.[17] The evidence for other neonatal outcomes suggests that rates of congenital malformations are not increased whilst the use of benzodiazepines is associated with an elevated risk of both pre-term birth and low birth weight.[152-158]

However, whilst the use of benzodiazepines appears to be more prevalent in women, the distribution of serious adverse outcomes does not follow the same gendered pattern. In Scotland, it was men who accounted for 72.5% of sedative/hypnotic-related hospital stays in 2020/21 and 74% of benzodiazepine-implicated deaths over the same time period.[133] This suggests that the association between

benzodiazepine-related harms and gender is complex and is moderated by a multitude of possible factors. These may include variations in health-seeking behaviour, access to services, risk appetite, motivations for substance use, polydrug use (particularly concomitant opioid use), and underlying psychiatric comorbidities as well as internalised prescriber bias and stereotyping. Consequently, it may be that men and women are vulnerable to different patterns of harms rather than one gender being more vulnerable than the other. Considering the influence of gender on the patterns and harms associated with benzodiazepine use is therefore likely to be important in assessing the health needs of this population.

2.5.3 People with mental health conditions

The use of benzodiazepines in people with mental health conditions presents a delicate balance of risks and benefits. Whilst they can be effective treatments in certain psychiatric conditions as discussed above, the risk of exacerbating commonly co-existing substance use disorders or provoking an initial instance of problem drug use in this population is not negligible.[159]

Benzodiazepines are commonly prescribed to people with a severe mental illness and, despite an elevated risk of problem drug use, are even more commonly prescribed if a substance use disorder is also present.[160] [161] Long-term treatment with benzodiazepines in conjunction with antidepressants is common in mental health settings despite being against prescribing guidelines.[162] Analysis from England has shown that those GP practices with a high prevalence of serious mental illness exhibit higher volumes of anxiolytic and hypnotic drug prescriptions, whilst evidence from Norway and Japan has demonstrated that the presence of a psychiatric illness is an independent risk factor for 'excessive' or long-term use.[163-166]

Not only does a psychiatric diagnosis appear to predict problem benzodiazepine use, the use of benzodiazepines presents particular risks to people with such diagnoses. For example, benzodiazepines have been observed to aggravate the severity of an existing depressive illness.[167] In people with a diagnosis of bipolar disorder, benzodiazepines have been linked to a greater risk of a mood episode, increased levels of anxiety and depressive symptoms including suicidality, and a more severe and complex course of illness.[168] [169] Similarly, they have been associated with a higher frequency of aggression, disinhibition and depression in people with panic disorder with agoraphobia.[170] Concerningly, amongst people with schizophrenia, benzodiazepines have been associated with an increased risk of death, particularly from suicide.[171] More generally, benzodiazepine use amongst people attending psychiatric outpatient services has been linked to higher rates of deliberate self-poisoning, even after accounting for depression.[172]

2.5.4 The prison population

Problem drug use is highly prevalent in the newly remanded prison population and is likely to be significantly underestimated.[173] Without a dedicated detoxification programme, people in prison are likely to either continue to use drugs, often illicitly, or face dangerous untreated withdrawal syndromes.[173] [174] Analysis of the health outcomes of incarcerated populations in Scotland, England and Wales, as well as further afield, has consistently shown that adults released from prison are at a much higher risk of non-fatal overdose and drug-related death in the two weeks immediately following release from prison.[175-179] The precipitating factors are likely to include the loss of tolerance to substances following incarceration, the psychological and social stress that occurs upon leaving prison, and the possibility of a desire for 'celebratory fix' following release.[180] [181]

Regarding specific substances, opioids are most commonly implicated in the above outcomes although benzodiazepines have been found in combination with opioids in a significant proportion of cases.[177] The analysis from England and Wales demonstrated particular gender differences in that DRD in men were more likely to involve opioids whereas those amongst women were more likely to involve benzodiazepines,

cocaine, and antidepressants.[178] One study originating from an all-male high-security prison in Greece compared the characteristics of those who used benzodiazepines at therapeutic doses to those who did not use them at all.[182] The authors found that those who used benzodiazepines were more likely to score highly for anxiety and depression on validated measurement scales as well as being more likely to have a history of psychiatric hospitalisation, and illicit and intravenous drug use amongst other characteristics.[182]

2.6 'Prescribable' and 'street' benzodiazepines

Public Health Scotland draws an important distinction between 'prescribable' and 'street' benzodiazepines. 'Prescribable' refers to those drugs which are both licensed and widely prescribed (see Section 2.1) whereas as 'street' refers to those which are either not licensed for prescription in the UK or are believed to have originated from an illicit source (e.g. diversion or illegal importation or production).[183] In Scotland, the rise in these 'street benzos' is in large part due to the recent history of prescribing patterns and national drug policy.[184]

Initially, much of the illicit market was dominated by diverted prescribable drugs, however, it was in the 2000s when concerns regarding increased dependence on diazepam and the associated withdrawal effects prompted a shift in clinical guidance which began to curtail prescription rates in primary care, thus reducing the supply to a growing and now decades-old demand.[184-186] It was a global illicit market that met this demand via the introduction of novel (or new) psychoactive substances (NPS), a group of drugs to which 'street benzos' belong and that also includes synthetic cannabinoids and other so-called 'legal highs'.[187]

The recent rise in benzodiazepine-related deaths coincided with this broad decrease in the overall rates of prescriptions over the last ten years.[188] Similarly, the proportion of people with problem drug use being treated in specialist centres receiving a prescription for diazepam fell from 27% in 2005/06 to 9% in 2019/20.[189] This reduction not only served to deny those dependent on benzodiazepines of their supply but forced the suppliers, who previously dealt in diverted prescribable (and therefore of known quality and potency) medicines, to look for more dangerous illicit alternatives.[184]

The first such alternative to emerge in Scotland was a benzodiazepine first developed in the Soviet Union, phenazepam, which is now produced in the Russian Federation and Belarus, where it is available through prescription, as it is in the Baltic states.[190] Despite never having received marketing authority in the UK, it was detected in numerous police seizure operations in Scotland between 2008 and 2011 where it appears to have been marketed as counterfeit diazepam.[184 190] Subsequently, phenazepam-related deaths were first recorded in 2011.[191] Phenazepam found its way onto the streets of Scotland, and other countries, via the unregulated online marketplace in several forms: a powdered 'research chemical', as 1mg tablets diverted from Russia, in combination with other active ingredients, as counterfeit diazepam, and as a solution in dropper bottles or resealable vials.[190] In response, the UK Home Office placed a ban on the importation of phenazepam in 2011 and it was controlled as a Class C drug in the UK in 2012. In turn, phenazepam-related deaths subsequently declined.[192] Yet this did not translate into a decline in overall benzodiazepine-related deaths.[2] The market simply adapted to the new regulations and another benzodiazepine emerged on the streets in Scotland: etizolam.

Etizolam was developed in Japan in the 1980s where, as well as in Italy and India, it continues to be legitimately prescribed.[193] Despite only first being detected in the UK in 2012, when it was implicated in just a single DRD, it was subsequently implicated in 806 of the 1339 DRD in Scotland in 2020, representing some 60% of all DRD (although only 1% involved etizolam alone).[2 184] In contrast, diazepam was implicated in just 14% of DRD in the same year.[2] Between April 2019 and March 2020 Police Scotland seized 5.3 million etizolam tablets, accounting for 94% of all benzodiazepine seizures in Scotland in 2019/20.[194] The

rapid rise in prominence of etizolam is due to a number of factors. When purchased in bulk, a 1mg tablet of etizolam (equivalent to a 10mg tablet of diazepam) can cost as little as 5 pence.[195] Originally, it was the finished product in the form of whole tablets that was imported from overseas and resold on the street. Now, supply has shifted to a domestic production model, much of which is located in the west of Scotland, using bulk powder ordered from China and processed using multi-station rotary pill presses to form vast quantities of cheap tablets.[196] This illicit domestic production of counterfeit medications has resulted in consumers ingesting unknown quantities of active substances per dose. This so-called 'consumption roulette', in combination with the widespread availability and the low street-level cost of etizolam, in large part contributes to the high rates of benzodiazepine-related deaths in Scotland.[184]

2.7 Current legal and policy context

2.7.1 The law

Drug laws in Scotland are reserved to the UK Government. Under such laws, all benzodiazepines are considered 'prescription only medicines', meaning they must be prescribed by a doctor or another suitably qualified professional and can only be legally supplied by a pharmacist.[197] [198] Correspondingly, most benzodiazepines are controlled under Schedule 4 Part 1 of the Misuse of Drugs Regulations 2001 (MDR) meaning that they can only be possessed under a prescription.[199] Outside of a prescription, the Misuse of Drugs Act 1971 (MDA) (which divides drugs into three categories, Classes A, B and C, according to their potential for harm to the user or wider society) classifies benzodiazepines as Class C drugs meaning the maximum sentence for possession is two years' imprisonment whilst supplying or producing the drugs is 14 years imprisonment and a fine.[200] However, maximum sentences are rarely used.[201] NPS-type benzodiazepines not covered under the above laws are likely to be covered under the Psychoactive Substances Act 2016 which similarly makes it an offence to supply, produce, import or export such substances and carries a maximum sentence of seven years.[202]

The Advisory Council on the Misuse of Drugs (ACMD) is a non-departmental public body that makes recommendations to the UK Government on dangerous or otherwise harmful drugs, including their classification, scheduling and control under the above Acts and Regulations. In December 2016, ACMD made recommendations to control etizolam, and 15 other closely related NPS-type 'designer benzodiazepines', largely in response to its growing prominence in the illicit drug trade within Scotland and the associated DRD.[203] This recommendation was accepted by the Home Office and these substances were placed under Schedule 1 of the MDR (no recognised medicinal use) and made Class C drugs under the MDA. Following a further self-commissioned review 2020, a further three benzodiazepines were similarly regulated.[204]

2.7.2 Current Policy

The UK and Scottish Governments' approaches to problem drug use differ markedly. The former pursues a predominantly criminal justice approach, with drug policy set by the Home Office, whereas the latter uses a public health approach with responsibility for drugs policy lying with the Minister for Public Health, Sport and Wellbeing.[205] The differences in these approaches were discussed in depth during the Scottish Affairs Select Committee's inquiry into problem drug use in Scotland in 2019.[205] Nevertheless, criticism has been levelled at both Governments with the notion that policies from both approaches have contributed to do a crisis that has been decades in the making.[184]

The Scottish Government's current policy on drugs and alcohol was laid out in the 2018 national strategy paper: 'Rights, Respect, and Recovery'.[206] This was updated with a 'National Mission' statement by the First

Minister in 2021 at the same time as the new dedicated role of Minister for Drugs Policy was created.[207] This outlined the additional funding made available and placed a focus on improving access to and retention in treatment and support services, reducing stigma, and improving co-operation between agencies and organisations including the third sector. One specific policy of note is the commitment to implement the evidence-based medication-assisted treatment (MAT) standards developed by the Ministerial Drug Deaths Task Force (DDTF) that was set up in June 2019 in response to the rising numbers of DRD.[208-211] DDTF refer to MAT as 'use of medication, such as opioids, together with any psychological and social support, in the treatment and care of individuals who experience problems with their drug use.'[212]

Whilst it is implicit and, in places explicit, that the implementation of the MAT standards has been centred around opioid use, benzodiazepines were acknowledged by the First Minister as a significant issue that requires both law enforcement action to reduce supply and the development of treatment options to stem demand.[207] DDTF, with Public Health Scotland, established a benzodiazepines working group that has since published an interim guidance document for a specific MAT standards-informed harm reduction approach to benzodiazepine use.[213] DDTF has also outlined further actions it is taking or intends to take in order to meet the 'benzos challenge' such as raising stakeholder awareness, commissioning focussed research, establishing a drug testing service for Scotland, developing a community harm reduction training package, and reducing the availability of large pill press machines.[214]

2.8 Summary

The literature and evidence discussed here paint a troublesome picture of benzodiazepine use. However, it is important to recognise that benzodiazepines, when used as recommended, are a safe and efficacious medicine that can alleviate symptomatic distress for many. Silberman and colleagues from the International Taskforce on Benzodiazepines caution that contemporary discussion has been negatively biased against benzodiazepines and attempt to correct several prominent misconceptions regarding the risk of problem drug use.[215] In particular, they point to the evidence that suggests problem benzodiazepine use is relatively uncommon in those without a prior history of other problem substance use, and to the fact that the risk of death in benzodiazepine overdose is minimal outside of the circumstances of polydrug overdose, namely with alcohol or opioids.[215] Others have agreed that the risks have been overstated and suggest that benzodiazepines are an important option in a number of disorders.[216 217]

However, these arguments have, in turn, been argued against and the central premise that tolerance does not develop to the anxiolytic effects of benzodiazepines refuted.[218] Regardless of the exact degree of risk that benzodiazepine use will result in significant harm, the current context of DRD in which benzodiazepines are implicated in Scotland is concerning and worthy of further investigation and appropriate action at both national and regional level. As the First Minister stated in her National Mission statement, every single drug-related death "was a human being with dreams and aspirations, talent and potential … each of them left a hole in the lives of those who loved them … we must do much more to make sure others don't suffer the same fate."[207]

3. Epidemiological Assessment

3.1 Approach

Epidemiology has been defined as 'the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems.'[219] For this needs assessment, the 'health-related state' is the use of benzodiazepines and its subsequent health and social harms, whilst the 'specified population' is that which resides within the territorial board of NHS Tayside.

Studying the distribution of benzodiazepine use and its associated outcomes, as with other substances, is notoriously difficult due to the largely hidden, stigmatised, and illegal nature of such behaviour. Furthermore, people who use illicit substances often belong to marginalised communities, lead chaotic lives, and may have little interaction with statutory services or other bodies that routinely collect data.

This epidemiological profile therefore relies upon the triangulation of multiple routinely-collected national and local data sources. They provide an insight into the patterns of benzodiazepine use and its related harms, but should be interpreted in the context of the limitations of using such data. The data collection methods involved in each source are briefly discussed to allow the reader an appreciation of the relevant accuracy, validity and generalisability of the presented statistics.

The information is organised into three sections:

- Estimations of the scale and prevalence of benzodiazepine use.
- A description of the burden and rates of benzodiazepine-related health and social outcomes, including how this differs according to certain socio-demographic characteristics, namely age, sex, deprivation and location.
- An exploration of the available data with a focus on certain vulnerable groups, namely older people, women, people with mental health conditions and the prison population.

3.2 Key findings

3.2.1 Use of benzodiazepines

- The estimated prevalence of problem drug use (opioids and/or benzodiazepines) in Tayside is higher than the national average, much of which is accounted for by the high prevalence in Dundee City.
- Most of the people who use illicit benzodiazepines in Tayside also consume other substances, most commonly opioids but also gabapentinoids and psychostimulants (mostly cocaine).
- Of the people seeking help for their illicit drug use in Tayside, approximately one third use benzodiazepines as their main drug.
- The practice of injecting benzodiazepines is very rare in Tayside.
- Prescriptions of 'hypnotics and anxiolytics', which includes benzodiazepines, have fallen very slightly over the last ten years in Tayside.

3.2.2 Benzodiazepine-related outcomes

- Between 2017 to 2021, Tayside had the third highest age-standardised drug-related death rate of any NHS Scotland territorial board area. Most of these deaths were concentrated in Dundee City, which had the highest rate of any single local authority area in Scotland.
- Benzodiazepines were implicated in 88% of all drug-related deaths in Tayside between 2018 and 2021, second only to opioids. 92% of these deaths involved at least one 'street' benzodiazepine.
- All of the deaths involving benzodiazepines between 2018 and 2021 also involved another substance.
- Benzodiazepines were the most commonly reported drug involved in non-fatal overdoses (NFODs) whilst a dramatic rise in benzodiazepine-related hospital stays has also been observed since 2016/17.
- Only around 2% of the deaths in which benzodiazepines were implicated could be linked to the deceased person's own prescription benzodiazepine.

3.2.3 Socio-demographics and vulnerable groups

- Within Tayside, problem drug use is highest in Dundee City, in males, and in the 25-34 years age group.
- Prescriptions for benzodiazepines are much more common in females and in older age.
- Males accounted for over 70% of all benzodiazepine-related deaths and hospitalisations from 2018 to 2021. However, benzodiazepines were more likely to be implicated in DRDs in females.
- The 35-44 years age group represents the largest proportion of both benzodiazepine-related deaths and hospital stays in both males and females.
- Fewer males than females who are at risk of adverse benzodiazepine-related outcomes are known to specialist drug services.
- Benzodiazepine-related deaths and hospitalisation are heavily concentrated in the most deprived areas, and in Dundee City in particular.
- Over 70% of people who succumbed to a benzodiazepine-related death had a psychiatric condition.
- Benzodiazepine use is particularly prevalent in the population of offenders entering prison, nationally and in Tayside. Nearly half of all prisoners in Tayside report having ever used illegal drugs whilst in prison.

3.3 Prevalent use of benzodiazepines

3.3.1 Estimated prevalence of problem drug use

Information Services Division (ISD) Scotland, now part of Public Health Scotland (PHS), conduct a study to estimate the national and local prevalence of problem drug use in 15- to 64-year-olds every three years. The latest publication released in 2019 covered the period from April 2015 to March 2016.[220] Using capture-recapture statistical techniques to estimate this prevalence, this study itself relied on data from three sources: registrations with specialist drug treatment services, drug-related hospital admissions, and Criminal Justice Social Work (CJSW) reports. Problem drug use was defined as 'the problematic use of opioids (including illicit and prescribed methadone use) and/or the illicit use of benzodiazepines, and implies routine and prolonged use as opposed to recreational and occasional drug use.'[220] Whilst this definition does not isolate benzodiazepines, the high rates of opioid and benzodiazepine co-consumption across Scotland, as discussed above and demonstrated below, ensure that these statistics are nonetheless insightful.

The study estimated the problem drug use population in Tayside to number 4,600 people at a prevalence of 1.73%, using the mid-year population estimate from the National Records for Scotland as the denominator. Figure 3.1 displays this prevalence, as well as that of the three constituent local authority areas, relative to other NHS territorial boards and against the estimated national prevalence of 1.62%.

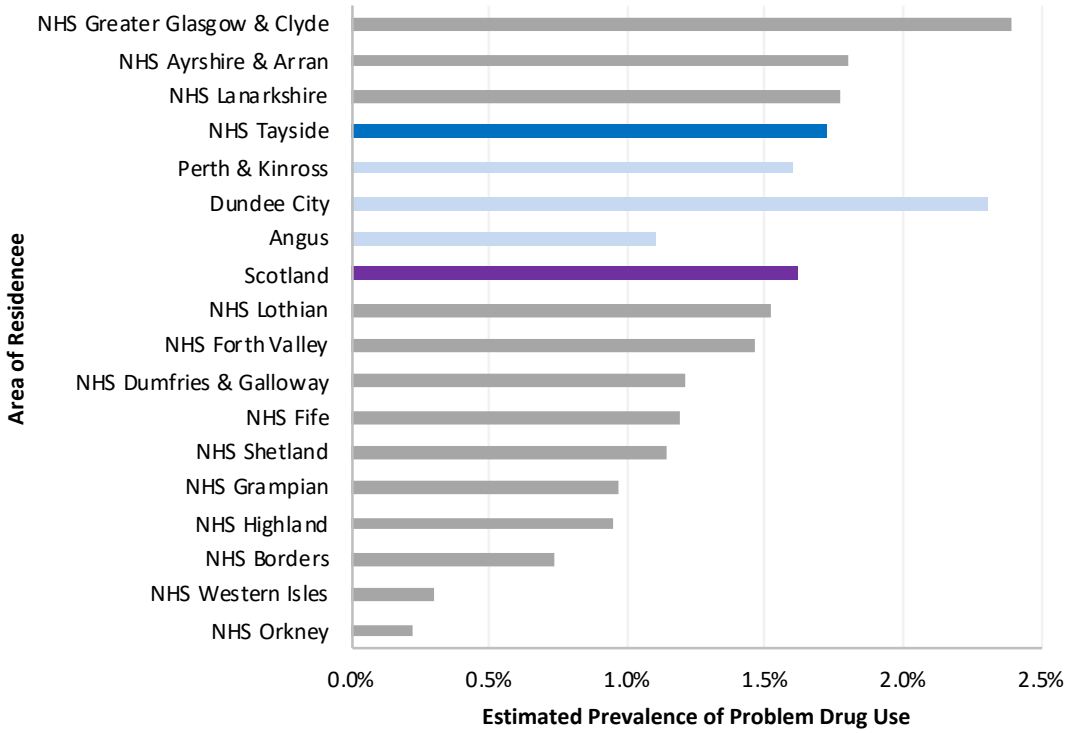

Figure 3.1. Estimated prevalence of problem drug use (opioids and/or benzodiazepines) in people aged 15 to 64 years by area of residence in 2015/16. (Source: ISD[220]).

Figure 3.1 demonstrates that whilst Tayside has an estimated prevalence of problem drug use that is higher than the national average, this is largely accounted for by the much higher prevalence in Dundee City (2.30%) compared to Angus (1.10%) and Perth & Kinross (1.60%), both of which have an estimated problem drug use prevalence below that of the national average. Similarly, it is males (2.44%) that appear to contribute disproportionately to the overall estimate compared to females (1.04%). The variation in estimated prevalence by sex across the three local authority areas ranges from 0.66% in females in Angus to 3.28% in males in Dundee City. Regarding age, in all three council areas, and in both sexes, estimated

prevalence was highest in the 25-34 years age group (3.65% in males and 1.98% in females) when compared to 15-24 years and 34-65 years.

It is important to acknowledge that these estimates are now several years out-of-date. The statistics on both deaths and hospital stays involving the use of benzodiazepines (presented below) indicate that rates of benzodiazepine-related outcomes are likely to have increased markedly since 2015/16. Therefore, the above estimates of prevalent use are likely to be considerable underestimations in relation to prevalent benzodiazepine use.

3.3.2 Self-reported Illicit Benzodiazepine Use in Scotland

The Scottish Crime and Justice Survey (SCJS) is a nationally representative random sample social survey of public experiences and perceptions of crime, completed face-to-face in approximately 6,000 respondents' (aged 16 years and above) homes each year.[221] The method of sampling uses a minimum effective sample size for each Police Division to ensure adequate precision and national representation. The survey also includes self-completed modules on topics of a more sensitive nature. Results of these modules are published biennially to provide suitable sample sizes as some respondents choose not complete the self-completion questionnaire. One such module concerns self-reported drug use in the 12 months prior to interview.

Whilst regional results are not routinely published, overall reported illicit drug use had increased from 9.5% of respondents in 2017/2018 to 13.5% in 2018/20 in Scotland. Of those who reported such use, 8.3% reported using benzodiazepines (without a prescription) compared to 58% for cannabis, 38% for prescription painkillers not prescribed to the respondent, 22% for cocaine, and 2% for heroin amongst many others. Figure 3.2 displays the percentage of all SCJS respondents who reported using benzodiazepines without a prescription in the four most recent self-completion survey periods.

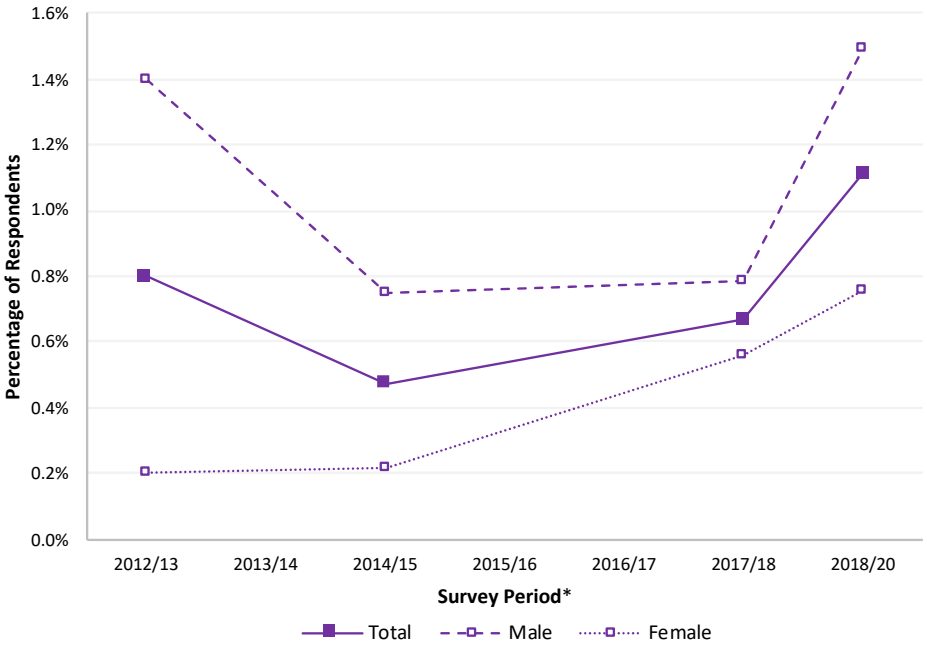

Figure 3.2. Percentage of all Scottish Crime and Justice Survey respondents reporting using benzodiazepines without a prescription in the last four completed surveys. (Source: SCJS[221]). *2018/20 is a two-year period.

When asked as part of the SCJS 2018/20, 1.1% of the 9,952 respondents across Scotland reported using benzodiazepines without a prescription in the 12 months prior to the interview. This figure was 1.5% in males and 0.8% in females. Further sociodemographic differences are presented for the last two survey periods in Table 1.

Higher rates of reported benzodiazepine use were seen in both survey periods amongst males, younger respondents, those living in more deprived and urban areas, and respondents who reported living with a disability or who reported being a victim of crime. Across all sociodemographic characteristics, the percentage of respondents reporting benzodiazepine use had increased in 2018/20 from 2017/18, expect amongst rural respondents.

Table 3.1. Sociodemographic differences in the percentage of SCJS respondents reporting use of benzodiazepines without a prescription in the 12 months prior to the interview.

	2017/18	2018/20			2017/18	2018/20	
TOTAL	**0.7%**	**1.1%**	↑	**TOTAL**	**0.7%**	**1.1%**	↑
Gender				**Urban/Rural**			
Male	0.8%	1.5%	↑	Urban	0.7%	1.3%	↑
Female	0.6%	0.8%	↑	Rural	0.3%	0.3%	↔
Age				**Disability**			
16-24	1.5%	2.7%	↑	Yes	1.2%	1.9%	↑
25-44	1.2%	1.7%	↑	No	0.5%	0.7%	↑
45-59	0.2%	0.8%	↑	**Victim Status**			
60+	0.1%	0.2%	↑	Non-victim	0.6%	0.9%	↑
Deprivation				Victim	1.4%	3.0%	↑
15% most	1.1%	2.1%	↑				
Rest	0.6%	1.0%	↑				

(Source: SCJS[221].) The methods used to categorise respondents can be viewed in the Technical Report.[222]

3.3.3 Community prescription dispensing

Another source of estimating prevalent use, albeit of only 'prescribable' benzodiazepines, is the Prescribing Information System (PIS). It provides information on all prescriptions dispensed in the community in Scotland which, for benzodiazepines, is summarised by PHS in a routine statistical report on medications used in mental health, the latest of which was covers the period from 2010/11 to 2019/20.[223] Statistics are presented as Defined Daily Doses (DDD), a metric developed by WHO and defined as 'the assumed average maintenance doses per day used on its main indication in adults'. Whilst this is not an exact measure of drug prescriptions or indeed use, it provides a fixed estimate which, importantly, is comparable over time and between regions. Information is provided for the drug class of 'hypnotics and anxiolytics' which includes, but is not limited to, benzodiazepines. These statistics are therefore likely to be overestimations of benzodiazepine prescriptions.

Figure 3.3 presents the DDD per 1,000 population per day for Tayside and the whole of Scotland. It shows that the rate of prescribing of hypnotics and anxiolytics has fallen very slightly over the period from 2010/11 to 2019/20 in Tayside, more so in the whole of Scotland. The regional rate of 25.6 DDD per 1,000 population per day in 2019/20, representing 147,444 total dispensed items, now closely approximates the national rate of 26.2. This can be used to estimate the prevalence of daily use of hypnotic and anxiolytic medications in Tayside as approximately 2.5%. This represents additional prevalent use of benzodiazepines on top of the estimations of illicit use or use without a prescription described above.

Nationally, in contrast to the illicit use of benzodiazepines, these prescriptions are more common in females, nearly two-thirds (62%) of all patients receiving a prescription in 2019/20 were female, and become more common with increasing age with 28% of all patients being aged 65 years or above.

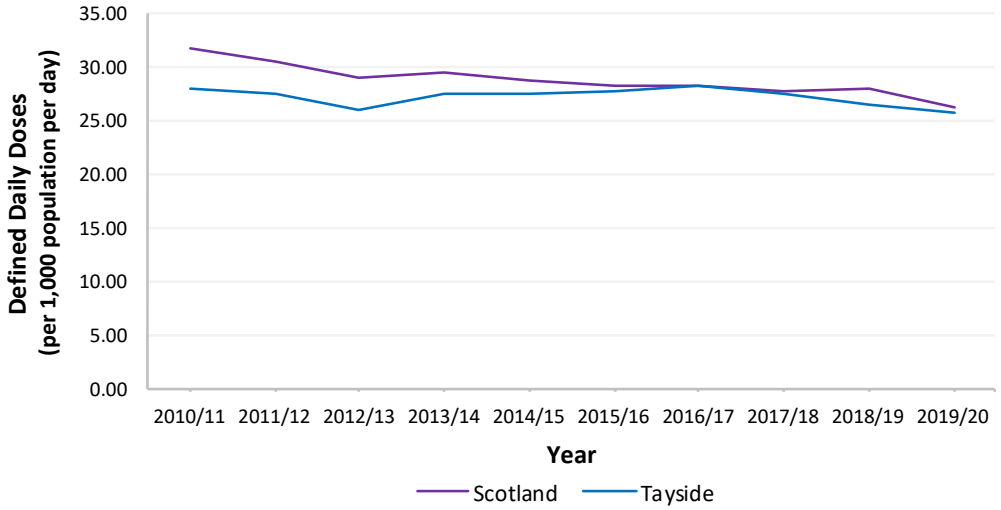

Figure 3.3. Benzodiazepine prescriptions in Tayside and Scotland as Defined Daily Doses per 1,000 population per day, 2010/11 to 2019/20. (Source: PIS/PHS[223]).

3.3.4 Adolescent Substance Use

The Scottish Schools Adolescent and Lifestyle Substance Use Survey (SALSUS) is a nationally representative self-completion survey of smoking, drinking, and drug use, as well as other lifestyle and health behaviours, administered by teachers in local authority and independent secondary schools across Scotland under examination conditions and is conducted every two years.[224] The latest published findings are from SALSUS 2018 in which Glasgow City Council schools did not participate, which could skew findings and make temporal trends harder to interpret.

Nationally, 4% of 13-year-olds and 12% of 15-year-olds reported having used drugs in the month before the survey. In Tayside, the same figures were 5% and 12% respectively whilst 50% of 15-year-olds in Tayside reported having ever been offered drugs. Cannabis was the most commonly reported drug ever offered to (41%) and ever used by (19%) 15-year-olds in Scotland. Tranquilisers, the term used in the survey for benzodiazepines, was not in the top five most common drugs reported in either metric and is therefore considered to be of low prevalent use in the adolescent population.

3.3.5 People Assessed by Specialist Drug Treatment Services

The Scottish Drug Misuse Database (SDMD) presents information from a demographically representative group of people who have presented for an initial assessment by specialist drug treatment services.[225] It is based on the national systematic recording of demographic and behavioural characteristics of new clients by a range of services in Scotland. However, completion rates are typically lower than the related Drug and Alcohol Treatment Waiting Times data (DATWT). In Tayside, the relative SDMD completion rate compared to DATWT was 56% in financial year (FY) 2020/21 and, therefore, cannot be considered as the complete population of people presenting to such services.

Nevertheless, the latest SDMD report presents information for 509 individuals presenting for an initial assessment for drug and/or alcohol services in Tayside in FY 2020/21. Of this group, 353 (69%) reported use of any illicit drug in the month prior to assessment, whilst 127 (25%) reported use of diazepam or other sedatives (note the reported use of diazepam may not be an accurate representation of actual use as many 'street' benzodiazepines contain different substances in different concentrations).

Figure 3.4 presents the main drug reported by each of the aforementioned 509 people. The 217 people reporting heroin as their main drug represent the highest proportion (61%) of any territorial health board in Scotland. Only 46 of the 127 (36%) people reporting current use of benzodiazepines reported that it was their main drug, indicating that the use of benzodiazepines is largely within the context of polydrug consumption. These data indicate that just under one in ten of people presenting to specialist drug and alcohol services in Tayside are using a benzodiazepine as their main illicit drug.

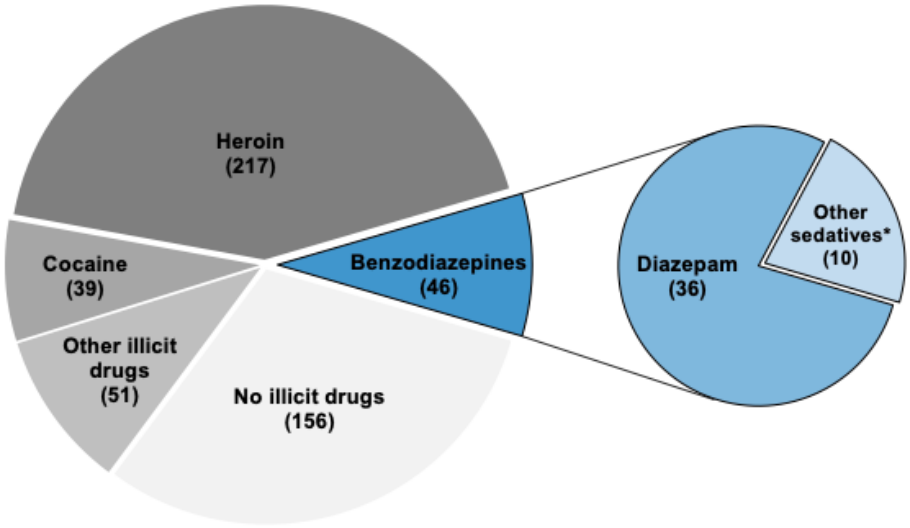

Figure 3.4. The main illicit drug used in the previous month reported by 509 people presenting for an initial assessment at specialist drug and alcohol services in Tayside in 2020/21. (Source: SDMD[225]).
*includes 'temazepam, nitrazepam, other benzodiazepines, and other related drugs e.g. zopiclone'f189

The SDMD also contains information on the source of referral to specialist drug and alcohol services which offers further insights into the population of people who use benzodiazepines. The most common source in Tayside is self-referral (49%), as it is nationally (45%). However, Tayside differs from the national picture when considering other sources: just 9% of referrals are from other health services (24% nationally) whilst some 31% were made from the criminal justice system (CJS) (13% nationally).

3.3.6 People Who Inject Drugs

The Needle Exchange Surveillance Initiative (NESI) is a cross-sectional voluntary anonymous survey of people who inject drugs (PWID) selected from agencies and pharmacies that provide injecting equipment. Whilst the injection of benzodiazepines has been reported, this practice is thought to be rare even amongst people who regularly inject drugs.[226] NESI data confirm this: from 2008/09 to 2019/20, the rates of self-reported injecting of benzodiazepines amongst respondents has never exceeded 3%. Indeed in 2019/20, just 19 of 1,660 respondents reported such practice. Whilst the individual statistic in Tayside was withheld due to a potential risk of disclosure, 12 of these 19 were in Greater Glasgow and Clyde suggesting the rates of benzodiazepine injecting in Tayside is extremely low.

The results of a crude local survey of people using a drop-in injecting equipment provision (IEP) harm reduction service in Dundee in the first half of 2022 was provided by Hillcrest Futures, a third sector organisation that provides a range of support for people who have drug and alcohol dependencies.[227] Overall, 79 of 95 (83%) respondents reported using 'street benzos' whilst just 5 (5%) reported using a 'prescribable' benzodiazepine. These results, stratified by sex, are presented in Figure 3.5. Assuming this survey was selective of people who inject drugs other than benzodiazepines, these results add further evidence of benzodiazepine use in Tayside being in the context of polydrug consumption.

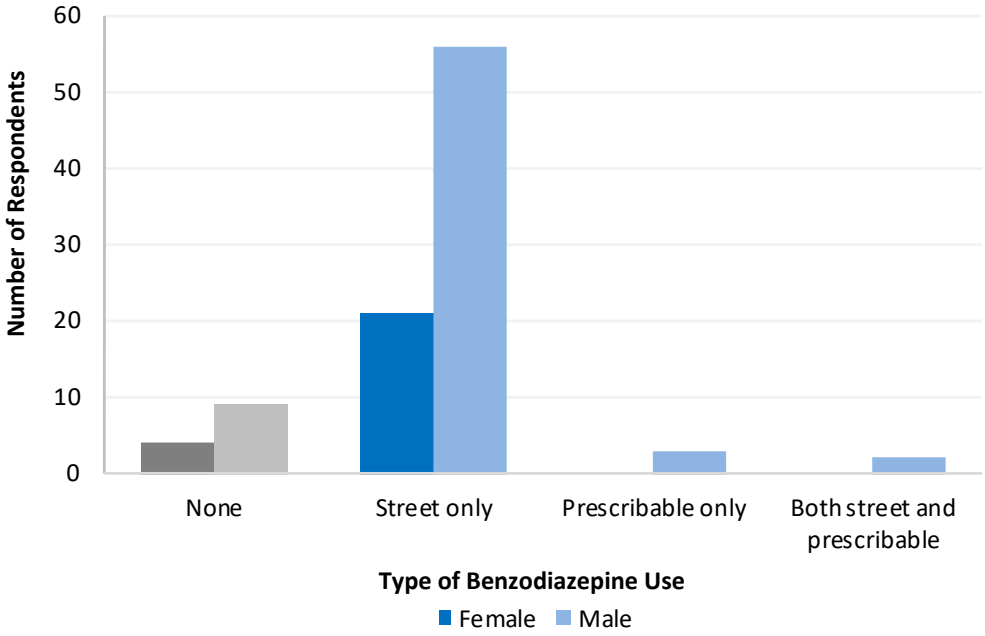

Figure 3.5. Self-reported use of benzodiazepines by gender amongst people using an IEP service in Dundee in 2022. (Source: Hillcrest Futures).

3.3.7 Samples submitted for toxicological analysis

Data was supplied by the NHS Tayside toxicology service on 6,960 urine samples tested using high-resolution mass spectrometry for a range of drugs covering the period from November 2020 to April 2022. Samples were provided from a range of sources and for a range of indications. The majority were for routine monitoring of people engaged with statutory drug services but further samples were supplied from psychiatric services, prisons populations, maternity services for routine monitoring of people known to use drugs, as well as general medical settings for diagnostic support in presentations such as seizures and coma (see Figure 3.6).

This data cannot be used to infer the general population prevalence of benzodiazepine use due the selective nature of the population tested, nor can it infer the prevalence amongst people known to use drugs as an individual may have provided multiple samples for testing within this period i.e. the observations in this data set are not independent. Instead, each positive result represents one instance of drug use by an individual. The following statistics must therefore be interpreted cautiously.

Overall, 1,652 (24%) of the 6,960 tests performed were positive for benzodiazepines. This was much lower than for opioids (76%); an expected result given the selectivity of the sample (a high proportion of people submitting samples are likely to have been on OST). Gabapentinoids (31%) and psychostimulants (cocaine, amphetamines, methamphetamines, MDA, MDMA) (27%) showed positivity rates similar to that of benzodiazepines.

This data is perhaps most useful in exploring instances of polydrug use. Figure 3.7 displays the rates of co-detection of other prominent drug classes amongst all samples testing positive for benzodiazepines. Some 1,529 of the 1,652 tests which were positive for benzodiazepines were also positive for opioids (93%). Again, this is somewhat expected given this sample is selective for people likely to be on OST. However, of the samples testing positive for benzodiazepines, two out of every three (66%) were positive for either etizolam (1,073 positive tests) or alprazolam (32 positive tests). This represents the use of 'street' benzodiazepines alongside either prescribed OST or illicit opioids. The rates of co-detection of benzodiazepines with gabapentinoids (53%) or psychostimulants (46%) were also very high.

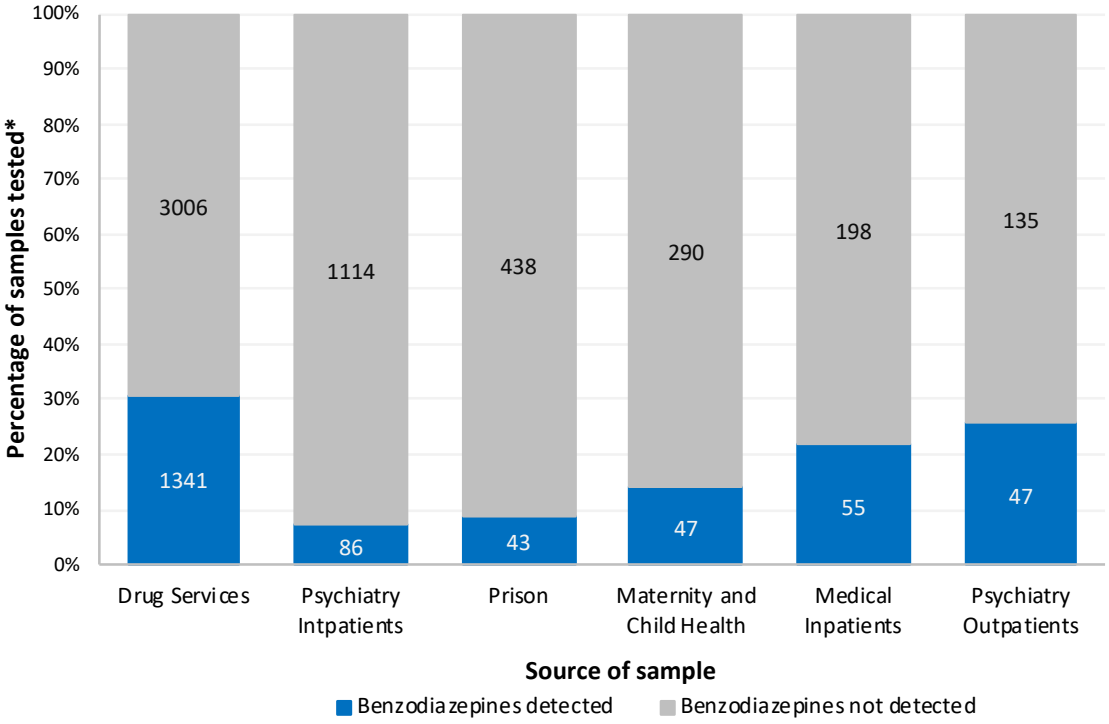

Figure 3.6. Percentage of urine samples testing positive for benzodiazepines by source of sample in Tayside during the period November 2020 to April 2022. (Source: NHS Tayside Blood Sciences). *inset is number of samples tested

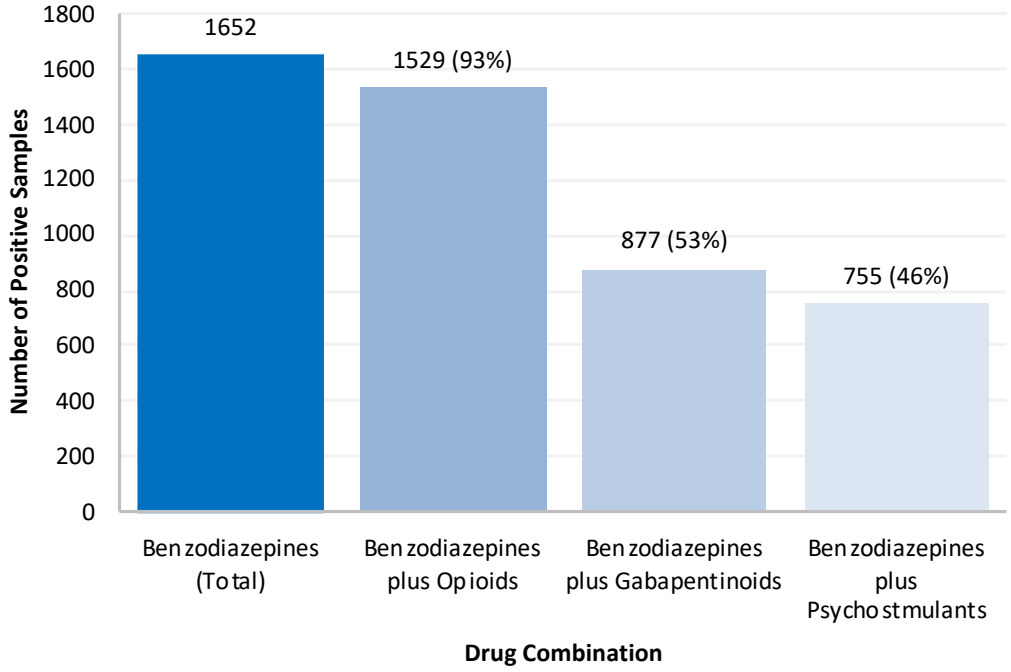

Figure 3.7. The number of urine samples testing positive for benzodiazepines, and for benzodiazepines plus other major classes of drugs, amongst the samples tested in Tayside during the period November 2020 to April 2022. (Source: NHS Tayside Blood Sciences).

3.4 Benzodiazepine-related health and social outcomes

3.4.1 Drug-related deaths

Drug-related deaths (DRDs), whilst attracting the most attention and causing the most concern, are fortunately relatively rare occurrences, even amongst people experiencing problem drug use. They represent just a small proportion of the range of possible adverse outcomes and so do not encapsulate the total spectrum of harm. Drug-related mortality statistics do, however, provide a definitive index of the most severe of outcomes, can be useful in the detection of emerging epidemics as well as in the evaluation of public health interventions, and are comparable across populations subject to consistent definitions.[228]

National Records of Scotland (NRS) produces an annual statistical report on DRDs in Scotland, the most recent of which covers those deaths registered in Scotland in 2021 (using the term drug misuse death in place of DRD).[1] NRS defines a DRD according to death registration records along with information and advice from the Crown Office, Procurator Fiscal service, forensic pathologists and PHS.[1] In short, the definition includes deaths in which the underlying cause has been attributed to a particular class of drug(s) or where a drug has been present in the body at the time of death, whether by accidental or intentional poisoning, by assault, or through an indeterminate intent.[229]

Overall, there were 1,330 DRDs in Scotland in 2021. It is the second highest number of DRDs in Scotland since records began in 1996. However, more encouragingly, this is the first time since 2013 that the number has fallen on the previous year (1,339 in 2020). There were 89 DRDs in Tayside in 2021. However, 2021 is the second consecutive year in which the total number of DRDs has fallen in Tayside, from a high of 118 in 2019 and 105 in 2020.

However, these relatively small overall numbers may simply represent a degree of annual fluctuation rather than a definitive trend; using a five-year moving average has the effect of smoothing out the year-to-year fluctuation and provides a better appreciation of the long-term trends. Similarly, it is important to account for the different sizes and age distributions between sub-populations and so an age-standardised rate is preferable when comparing areas. Figure 3.8 displays these age-standardised five-year moving average DRD rates for Tayside and its three constituent local authority areas against the national average.

When analysed in this way, the rates of DRD in Tayside are higher than in Scotland as a whole. For the five-year period 2017-2021, and after accounting for age, Tayside had the third highest drug-related death rate of all NHS board areas at 27.1 per 100,000 population, behind only Greater Glasgow & Clyde (33.7) and Ayrshire & Arran (28.1). Furthermore, it is clear that this higher than average rate is accounted for by the much higher rates of DRDs in Dundee City; indeed, the rates in both Angus and Perth & Kinross lie below the national average. In fact, Dundee City had the highest age-standardised DRD rate of any local authority area in Scotland (45.2 per 100,000 population) for the 5-year period 2017-2021. It has also seen the largest increase in DRD rate, from 5.9 per 100,000 population in 2000-2004 to 45.2 per 100,000 population in 2017- 2021. It remains to be seen whether the recent encouraging decreases in annual DRD numbers in Tayside will be sustained over the longer term and eventually reflected in these five-year moving averages. Regarding the types of drugs involved in each death, the NRS statistics refer to those drugs which the pathologist considered were either implicated in, or potentially contributed to, the cause of death.[230] In 2021, opiates were implicated in 84% of all DRDs in Scotland, benzodiazepines in 69%, gabapentinoids in 36%, and cocaine in 30%. More than one drug was detected in 93% of all DRDs. The number of deaths in which 'street' benzodiazepines were implicated has increased markedly from the one death in 2008 to 842 in 2021 (92% of all benzodiazepine-implicated deaths). In contrast, a much more modest increase has been observed in deaths in which 'prescribable' benzodiazepines were implicated: 148 in 2008 to 214 in 2021 (see Figure 3.9).

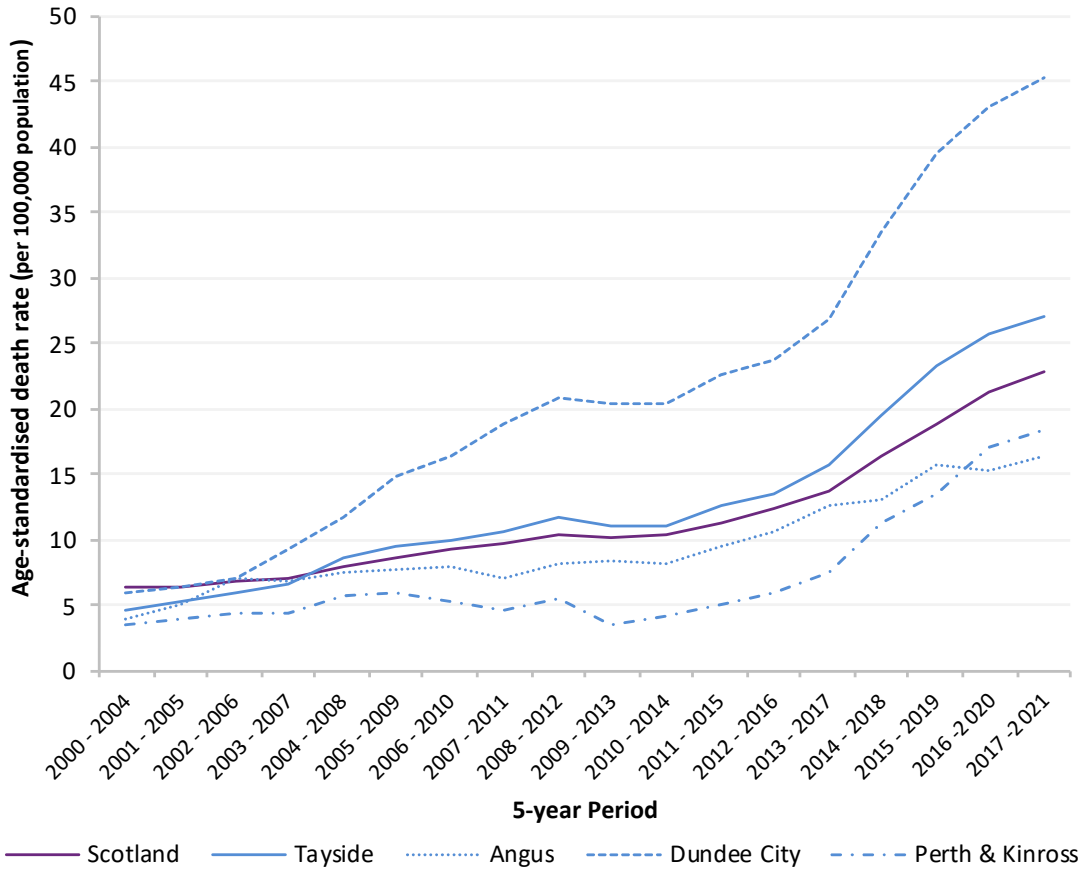

Figure 3.8. Age-standardised five-year moving average DRD rates (per 100,000 population) for Scotland, Tayside and its three constituent local authority areas. (Source: NRS[1]).

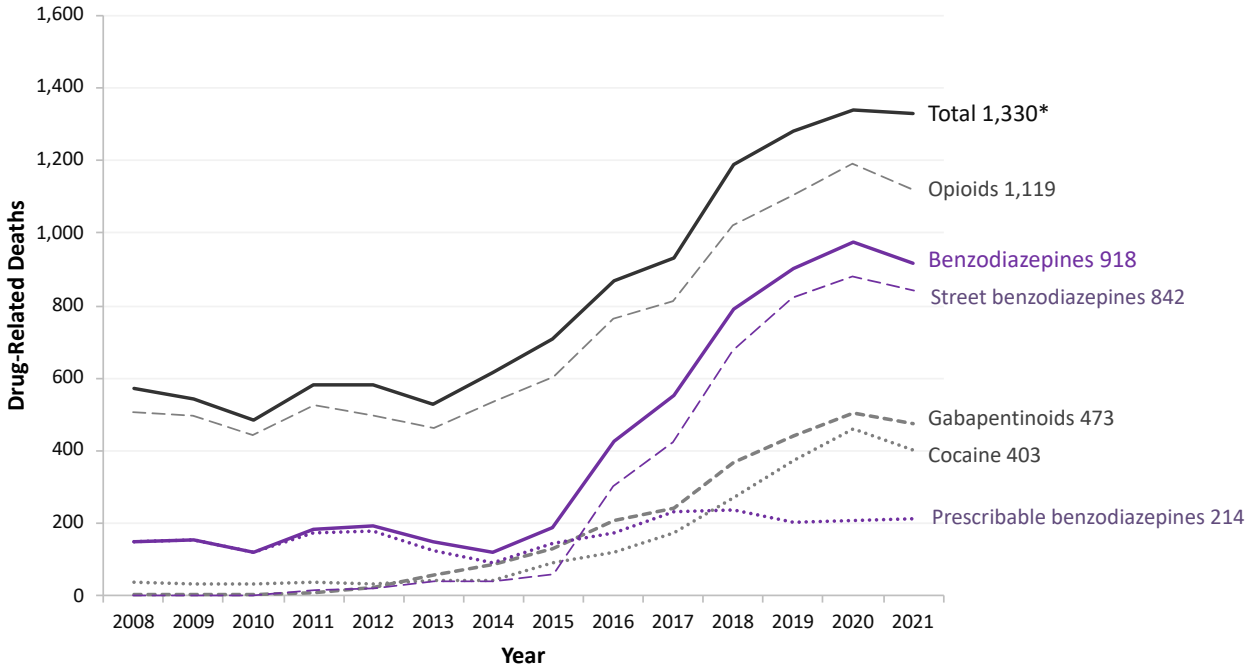

Figure 3.9. Drug-related deaths in Scotland by drug classes implicated, 2008 to 2021. (Source: NRS[1]).
*The sum of the different drug classes exceeds the total as more than one drug class was implicated in most deaths).

The order of the relative proportions for each major drug class implicated in DRDs in Tayside in 2021 was the same as it was for the whole of Scotland. However, benzodiazepines were implicated in a noticeably higher proportion in Tayside (78%) than in the whole of Scotland (69%). This the second highest proportion of all health boards, behind only Forth Valley (91% of 69 DRD).

The drug classes implicated in the 334 DRD in Tayside for the four-year period from 2018 to 2021 (inclusive) are presented in Figure 3.10. Opioids were the most commonly implicated drug (97%), followed by benzodiazepines (88%), gabapentinoids (57%), cocaine (37%) and alcohol (31%). The sum of these percentages clearly amasses to much more than 100%, indicating that a large number of the deaths involved more than one of these drugs. In fact, all 295 of the deaths involving benzodiazepines in this four-year period in Tayside involved at least one other type of drug: nearly all involved opioids (293, 99%), most involved gabapentinoids (180, 61%), many involved cocaine (107, 36%), and some also involved alcohol (86, 29%). Viewed from an alternative angle, 90% of the 325 deaths involving opioids, 95% of the 189 deaths involving gabapentinoids, and 87% of the 123 deaths involving cocaine also involved benzodiazepines. This is a very strong indication that, when considering drug-related deaths in Tayside, the role of benzodiazepines must be considered within a context of polydrug consumption.

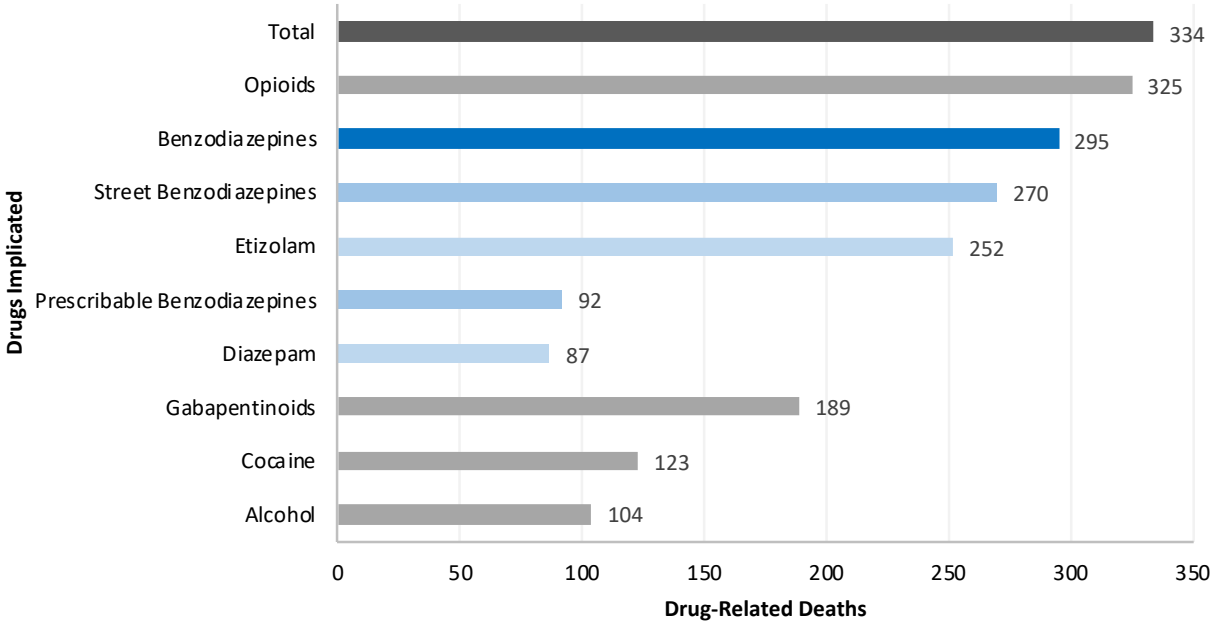

Figure 3.10. Drug-related deaths in Tayside by drugs implicated, totals for the period 2018 to 2021. (Source: NHS Tayside Health Intelligence).

Figure 3.10 also demonstrates that the vast majority of deaths involving benzodiazepines involved at least one 'street' benzodiazepine (270, 92%), most of which involved etizolam (252, 93%). This is a new and growing trend; in just the last five years, deaths involving the most commonly implicated 'prescribable' benzodiazepine (diazepam) have fallen from 17 to 14, whilst those involving etizolam have nearly trebled from 21 to 62. Other 'street' benzodiazepines (and metabolites) implicated included alprazolam (23), delorazepam (8) and flualprazolam (6). At least one 'prescribable' benzodiazepine was implicated in 92 (31%) of the deaths involving benzodiazepines, most of which (87, 95%) involved diazepam. Figure 3.11 displays the percentage of all DRD that involved a benzodiazepine during this period. It demonstrates that benzodiazepines have been consistently implicated in approximately 90% of DRD in Tayside, but whilst the overall trend of the involvement of 'street' benzodiazepines has risen slightly, involvement of 'prescribable' benzodiazepines has fallen.

Although the involvement of 'prescribable' benzodiazepines appears to be over 20%, linking the data on DRD to available prescription information reveals that just 18 (6%) of the 295 deaths involving benzodiazepines occurred in patients who had a recorded and legitimate prescription for a benzodiazepine. Furthermore, in 13 of these 18 deaths the benzodiazepine involved was not the benzodiazepine that was prescribed to that person. In other words, no more than five (2%) of the 295 deaths in which benzodiazepines were implicated could be linked to that person's own prescription benzodiazepine. Therefore, it can be concluded confidently that the legitimate use of prescription benzodiazepines, in the absence of concomitant use of 'street' benzodiazepines, has not been a major factor in the drug-related deaths in Tayside over the last four years.

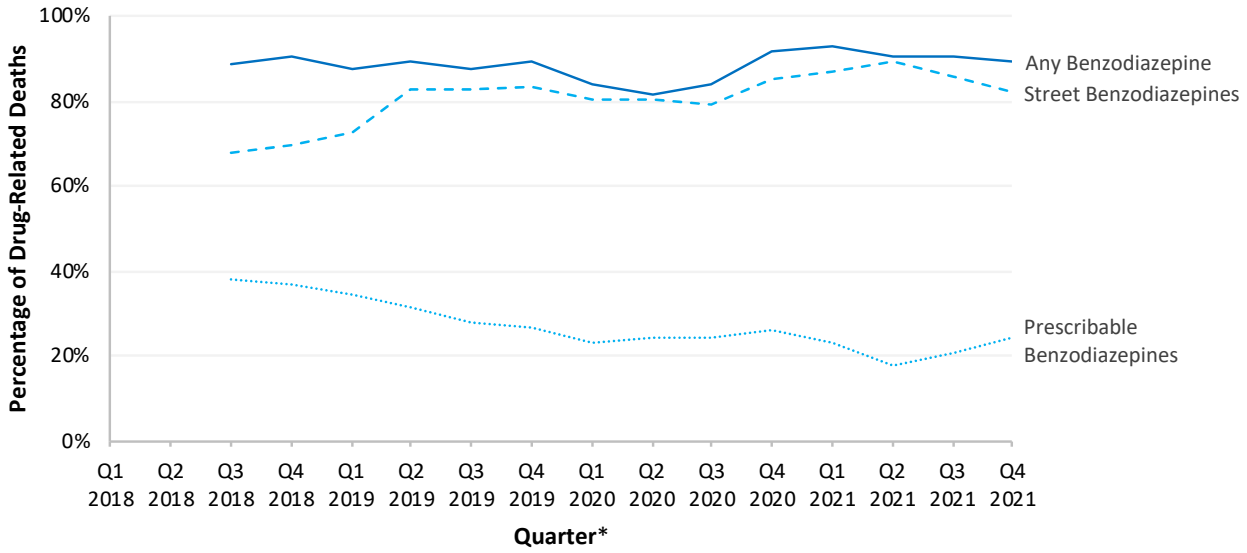

Figure 3.11. Percentage of drug-related deaths in Tayside involving benzodiazepines by quarterly period, as a three-quarter period moving average. (Source: NHS Tayside Health Intelligence).

3.4.2 Non-fatal overdoses

The Tayside Drug Death Review Group (TDDRG) uses the following definition of a non-fatal overdose (NFOD): an episode of intoxication due to an illicit or illicitly acquired substance that has resulted in emergency medical help being sought.[231] As well as being a significant harm in its own right, an NFOD is a recognised risk factor for a subsequent fatal overdose.[232] Analysis of the drug deaths in Tayside in 2020 by the TDDRG showed that 50 (56%) of the 89 drug deaths occurred in people who had experienced a previous NFOD, 26 of which had experienced an NFOD in the 12 months prior to their death (note that a different definitions of drug deaths are used by TDDRG and NRS hence the difference in drug death numbers reported).[231] Analysis by Ghose et al of the 557 known NFODs occurring between 5 Dec 2017 and 12 May 2019 amongst the patient cohort of the Tayside Substance Use Service (TSUS) revealed that just over half (281, 50.4%) of these patients self-reported that benzodiazepines were involved in their NFOD, second only to methadone (321, 57.6%) as expected given the nature of this selective sample.

Data on suspected NFODs in Tayside, as recorded by the Scottish Ambulance Service (SAS) for the period between November 2019 and May 2022, were available to the NHS Tayside Directorate of Public Health. This data includes demographic information, details of the particular incident, and information on the substances involved either as self-reported by the patient or a present witness or by the ambulance crew themselves based on information available at the scene e.g. drug packets, visual inspection of non-consumed drugs, and other paraphernalia. The self-reported, or reporting by-proxy, nature of this data

limits the ability to draw firm conclusions whilst it also produces statistics that are almost certainly substantial underestimations.

Figure 3.12 displays the number of NFODs during this period by the drug classes reported or suspected to have been involved. Benzodiazepines were the most commonly reported drug class, 641 (43%) of the 1474 NFODs recorded in this period, outnumbering opioids considerably (443, 30%). Whilst it is possible that this represents a greater risk of experiencing an NFOD when taking benzodiazepines compared to other drugs, there are several alternative explanations. These include the greater relative social acceptability of reporting benzodiazepine use compared to other illicit drugs, the ease of identification of the characteristic appearance of benzodiazepine tablets by ambulance crews, and the lower lethality of benzodiazepines compared to opioids resulting in a greater proportion of patients surviving to be recorded as an NFOD rather than a DRD. Nonetheless, the 641 NFODs involving the suspected use of benzodiazepines occurring in Tayside in a period of just 19 months represents a substantial burden.

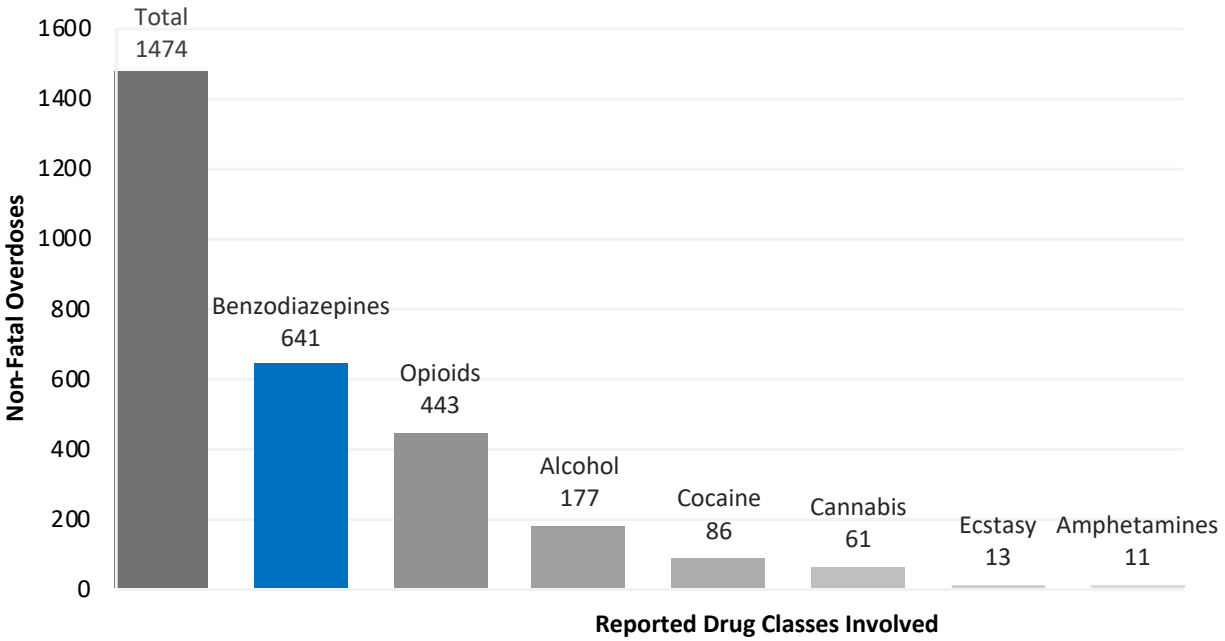

Figure 3.12. Non-fatal overdoses in Tayside by the drug classes involved, as reported by the Scottish Ambulance Service, for the period November 2019 to May 2022. (Source: SAS/NHS Tayside Health Intelligence).

Figure 3.13 displays the trend in NFODs by benzodiazepine involvement reported during this period as a four-month moving average. There is substantial variation month-to-month with an apparent Autumn peak and Spring trough, although the data does not extend far enough into the past to confirm this pattern with any confidence (note, prior to November 2019 several different definitions of an NFOD were used and therefore cannot be reliably compared with the data presented). This pattern is similar for NFODs both involving and not involving benzodiazepines. However, overall, there does appear to be a downward trend in the reporting NFODs, a trend that has coincided with the establishment of the multi-agency NFOD pathway in all areas of Tayside, starting in Dundee City in November 2019 (see Section 4.6.7). Whilst the reduction in NFODs may not be solely attributed to the efforts of this multi-agency response, this pathway seeks to maximise identification and reporting of NFODs, and provide an assertive outreach response, and so the downward trend since its establishment is particularly encouraging.

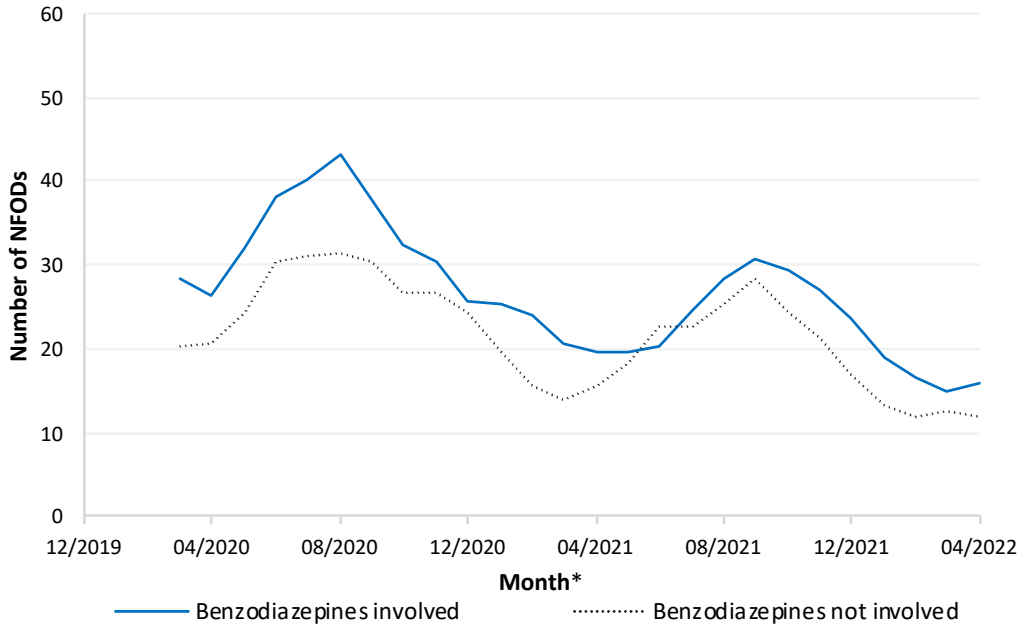

Figure 3.13. Number of reported NFODs in Tayside as a four-month moving average, for the period December 2019 to April 2022. (Source: SAS/NHS Tayside Health Intelligence). *Last month of four-month period

3.4.3 Hospital stays

Information on drug-related hospital stays in general acute hospitals is derived from the Scottish Morbidity Record (SMR01) database, which draws information routinely from hospital administrative systems across NHS Scotland, and is published as statistical reports by PHS.[233] This information excludes obstetric and psychiatric admissions as well as emergency department attendances that do not result in a hospital stay, and so does not capture the entirety of hospital stay activity. As this data is 'episode-based', i.e. a record is created after a referral or admission to an NHS hospital as well as when a patient is transferred between hospitals or specialties, it can result in multiple 'episodes' per hospital stay and so may represent a slight overestimation.

All discharge diagnoses, as defined by a national standard list using International Classification of Diseases 10th Revision (ICD10) Codes, are recorded as either the main diagnosis or one of five possible secondary diagnoses.[38] Under these codes, a benzodiazepine-related hospital stay is defined according to a discharge diagnosis of either 'Mental and behavioural disorders due to: Sedatives/Hypnotics' (F13) or 'Poisoning by antiepileptic, sedative-hypnotic and anti-parkinsonism drugs: Benzodiazepines' (T42.4).

Figure 3.14 displays the rate per 100,000 population of benzodiazepine-related hospital stays in Tayside, the three constituent Alcohol and Drug Partnership (ADP) areas, as well as the national average. The European Age-sex Standardised Rate (EASR) was used, using the NRS mid-year Scotland population estimate from 2019, to allow comparison between areas with different age-sex structures (see the methods section of the original report for further detail).[233] A dramatic increase in the rate of benzodiazepine-related hospital stays in Tayside can be seen from 2016/17 onwards. As seen in the DRD statistics, the now higher than average rate for Tayside as a whole (55.7 per 100,000 population in 2020/21) is accounted for by the much higher than average rate in Dundee City (104.1 per 100,000), whilst the rates in both Angus (23.3 per 100,000) and Perth & Kinross (35.0 per 100,000) are again below the national average (50.4 per 100,000).

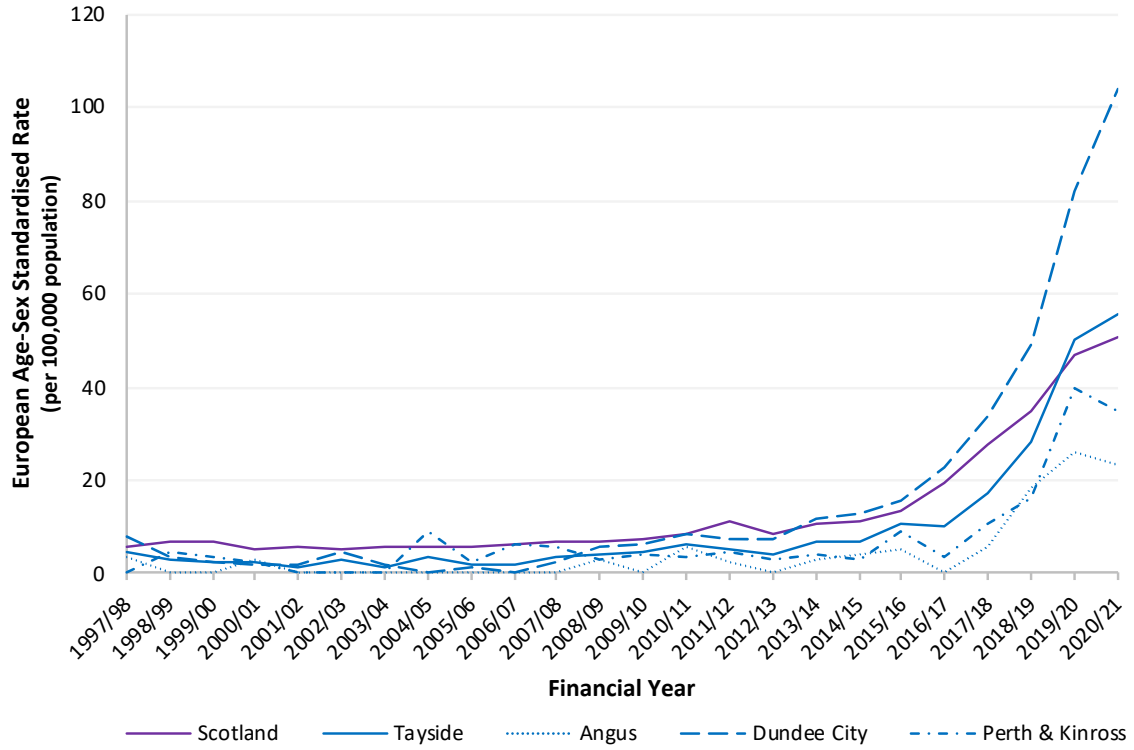

Figure 3.14. European Age-sex Standardised Rate (per 100,000 population) of benzodiazepine-related hospital stays in Scotland, Tayside and its three constituent local Alcohol and Drug Partnership areas. (Source: SMR01/PHS.)[233]

In order to accurately represent the burden of benzodiazepine-related hospital stays in NHS Tayside, Figure 3.15 presents the raw numbers of the relevant discharge diagnoses whilst excluding any transfer related 'episodes'. The statistics presented are for NHS Tayside as the 'board of treatment' rather than the 'board of residence' and so excludes residents of Tayside treated elsewhere in Scotland.

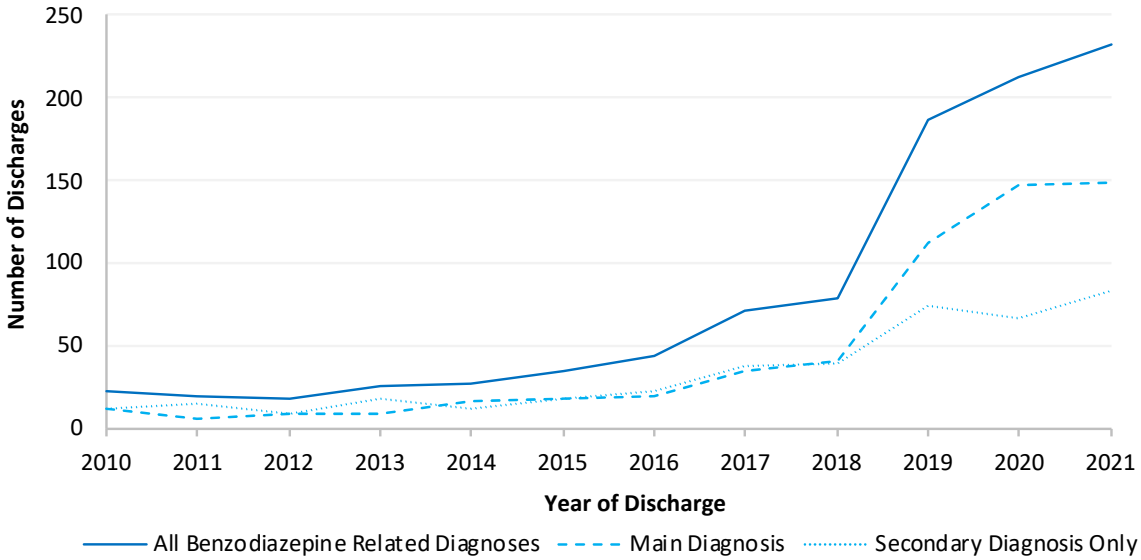

Figure 3.15. Number of benzodiazepine-related discharge diagnoses from acute general hospitals in NHS Tayside, 2010 to 2021. (Source: SMR01/NHS Tayside Health Intelligence).

Between 2010 and 2021 (inclusive), there were 8,285 drug-related hospital stays in NHS Tayside, of which 569 (7%) had a benzodiazepine-related main diagnosis and a further 401 (5%) had a benzodiazepine-related secondary diagnosis. Of these 970 discharge diagnoses, 631 (65%) were recorded in just the most recent

three-year period from 2019 to 2021. As for DRDs, this again highlights the dramatic increase in benzodiazepine-related health outcomes in recent years.

Whilst these patterns coincide with the emergence of 'street' benzodiazepines in the mid-2010s, as reflected in both the crime and mortality statistics presented below, differentiation between the type of benzodiazepine involved is not possible using ICD-10 codes. Furthermore, such coding is in part a subjective decision (in contrast to objective toxicology data) made by diagnosing clinicians and coding staff and so a degree of inaccuracy in these statistics is likely. Indeed, it may be that as clinicians became more aware of the role of benzodiazepines in adverse health outcomes, the likelihood of their identification and coding as such increased.

3.4.4 Health outcomes by socio-demographic characteristics

Much of the above epidemiological assessment has described the trends in benzodiazepine-related outcomes over time. It is important to consider also where and to whom these outcomes occur within Tayside i.e. the distribution according to socio-demographic characteristics. Using the data sources already discussed, these outcomes can be explored by age, sex, deprivation (using quintiles of the Scottish Index of Multiple Deprivation (SIMD)[234]), and the council area in which they have occurred.

Figure 3.16 displays the age and sex distribution of these outcomes during the period from 2018 to 2021 (inclusive). It demonstrates that males accounted for a much greater proportion of all benzodiazepine-related deaths (70.5%) and hospitalisations (73.0%) in the 2018-2021 period. This is aligned with the higher estimated prevalence of illicit benzodiazepine use in males described above in Figure 3.2. The 35-44 years age group represents the largest proportion of both benzodiazepine-related deaths and hospital stays in both males and females. Males in this age group account for 25.1% of all benzodiazepine-related deaths and 29.3% of all benzodiazepine-related hospital stays; these same statistics in females are 14.6% and 13.1% respectively. However, these outcomes are distributed more widely amongst the age groups in males than in females. In males, 64.4% of deaths and 59.8% of hospital stays occurred outside the 35-44 years age group, whilst in females these same statistics were 55.5% and 51.5% respectively.

Overall, the average age of death was slightly younger in males (41.4 years) than in females (43.2 years). The age distribution of outcomes is naturally slightly older than that estimated for the prevalent use of benzodiazepines which is highest in the 25-34 years age group as discussed above. Again, perhaps predictably, the overall age distribution of hospital stays is slightly younger than that of DRDs, as depicted by the line plots in Figure 3.16.

There are other subtle differences in outcomes between males and females. Amongst all DRD, benzodiazepines were more likely to be implicated in DRDs in females (94.6%) than in males (86.0%) whilst, of these benzodiazepine-related deaths, 'street' benzodiazepines were more often implicated in females (94.3%) than in males (90.3%). Similarly, amongst the toxicological samples submitted for analysis from specialist drug services between November 2020 to April 2022, 32.8% of samples from females were positive for benzodiazepines whilst 29.8% were positive in male samples. At face value, these findings could represent a greater preference amongst females for benzodiazepines. An alternative explanation could be a broader and more diverse use of other drugs amongst males, in effect 'diluting' the benzodiazepine-related outcomes. However, the objective nature of this data does support the conclusion that rates of benzodiazepine use appear to be slightly higher amongst females within the population of people known to use illicit drugs.

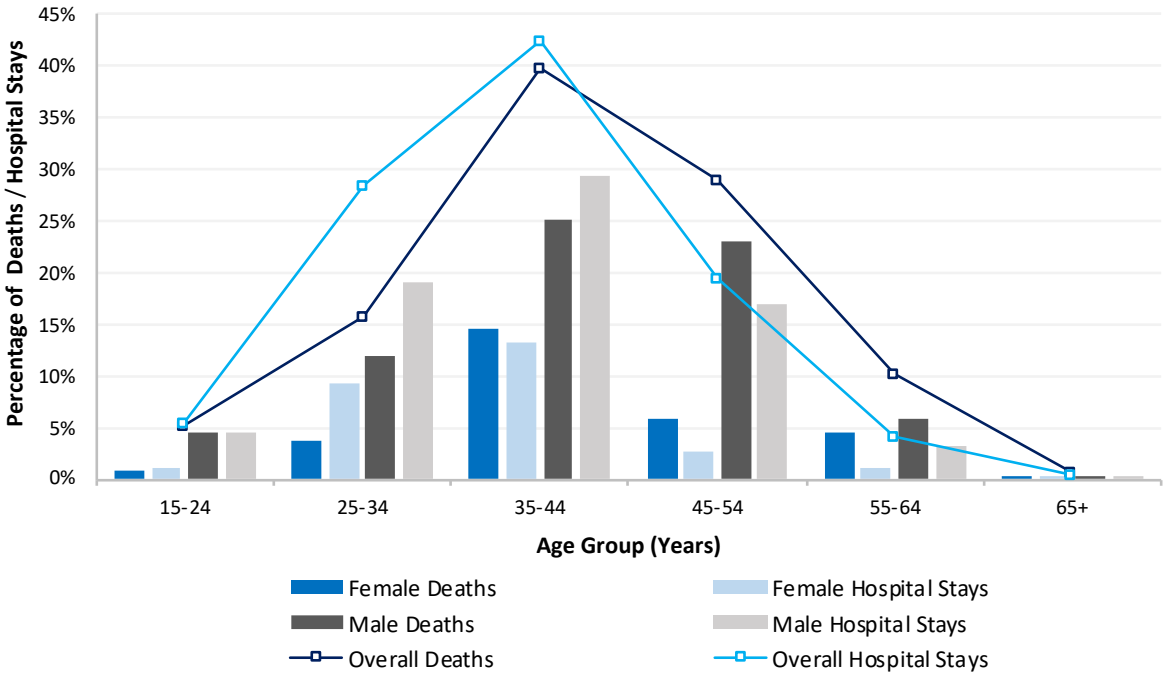

Figure 3.16. Percentage of all benzodiazepine-related deaths and hospital stays by age group and sex, for the period 2018 to 2021 (inclusive). (Source: SMR01/NHS Tayside Health Intelligence).

One further particularly concerning difference between males and females emerges when analysing the proportion of DRDs and NFODs occurring in people known to, or in contact with, specialist drug services. Figure 3.17 demonstrates this proportion is much lower in males, 55.0% for DRD and 68.5% for NFOD, compared to females, 74.4% for DRD and 81.2% for NFOD. This may indicate that the coverage of drug use services is lower amongst at-risk males than it is for at-risk females and may represent a greater unmet, or even unfelt, need amongst such males. Alternatively, it may reflect that services, for some reason, are less 'protective' in terms of reducing drug death risk for females in comparison with males.

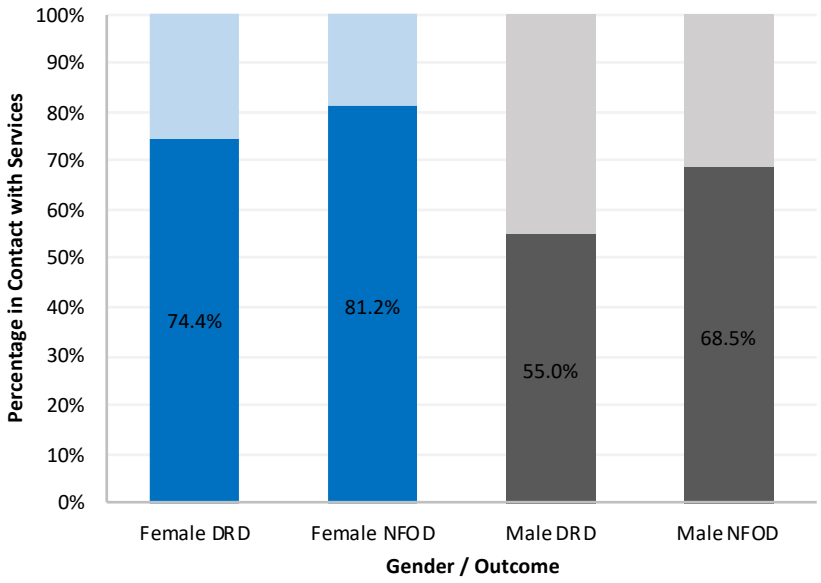

Figure 3.17. The proportion DRDs (2018 to 2021) and NFODs (November 2019 to May 2022) occurring in people known to specialist drug services in Tayside. (Source: SAS/NHS Tayside Health Intelligence).

Figure 3.18 presents the deprivation index and council area distribution of these same outcomes. Despite SIMD being an area-based measure of deprivation, meaning that not every person in that area will be experiencing the same level of deprivation, the figure is striking. It demonstrates that a very large proportion of all benzodiazepine-related deaths (44.3%) and hospital stays (44.7%) in Tayside occurred in people living in just the most deprived (SIMD quintile 1) areas of Dundee City. This is in-keeping with the higher estimated prevalence of benzodiazepine use in Dundee City as a whole, as shown above in Figure 3.1. Overall, people living in more deprived areas (SIMD quintiles 1 and 2) accounted for 79.9% of all deaths and 82.5% of all hospital stays. Just 0.7% of deaths and 1.6% of hospital stays occurred in the least deprived areas of Tayside (SIMD quintile 5), all of which were in Perth & Kinross. Therefore, benzodiazepine-related deaths and hospital stays are strongly correlated with this index of deprivation.

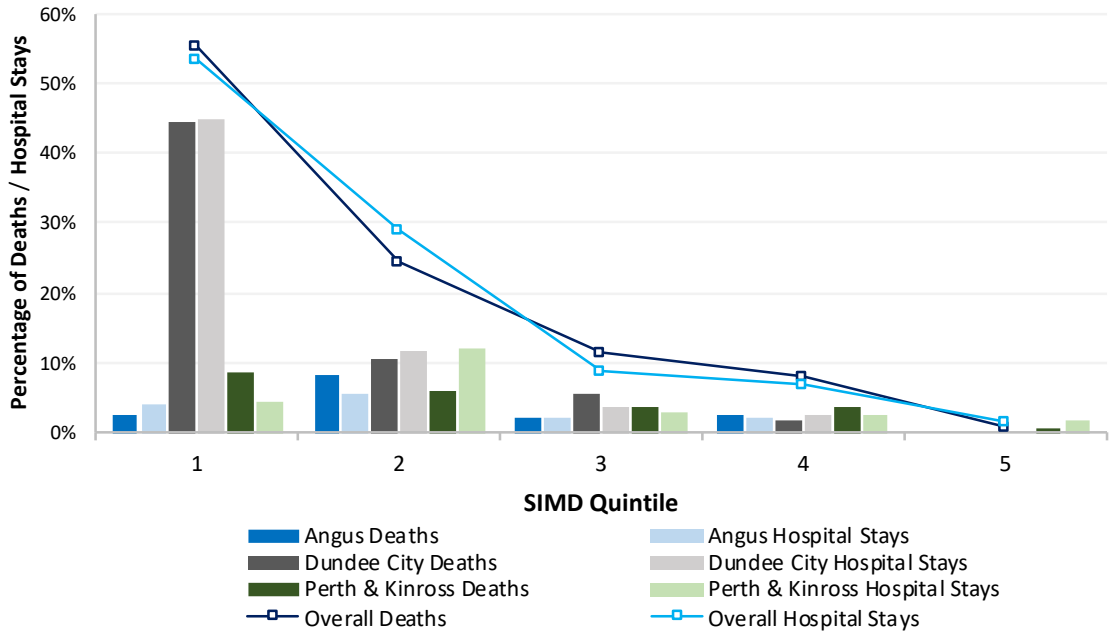

Figure 3.18. Percentage of all benzodiazepine-related deaths and hospital stays by SIMD quintile and council area, for the period 2018 to 2021 (inclusive). (Source: NHS Tayside Directorate of Public Health/SMR01).

3.4.5 Crime

Official statistics on drug seizures made by Police Scotland are presented annually in the Drug Seizures and Offender Characteristics (DSOC) statistical bulletin.[235] The data comprises information on drug supply-based crimes compiled manually by Police Scotland as well as analysis of a random sample of 400 possession-based crime records by Scottish Government statisticians, stratified by police division to ensure the statistics are representative of these crimes across Scotland. Not included are drugs seized in operations conducted by UK Border Force or the British Transport Police, or those conducted by Police Scotland overseas. Regional information is not routinely published and therefore only the national data can be described.

Figure 3.19 presents the total estimated quantity of benzodiazepine tablets seized per financial year. For 2019/20, an estimated 5.26 million benzodiazepine tablets were seized, 94% of which were estimated to be etizolam and therefore 'street' benzodiazepines. Prior to 2017/18 and the classification of etizolam as a Class C drug, the majority of these tablets were likely to be diazepam.

This classification coincided with a change in the nature of benzodiazepine-related possession crimes as can be seen in Figure 3.20. Since 2017/18, diazepam was observed in fewer than 15 of the 400 sampled crimes

and was therefore not recorded. However, since 2018/19, etizolam alone has accounted for the second highest proportion of drug possession crimes sampled (14% in 2019/20), second only to herbal cannabis (49%).

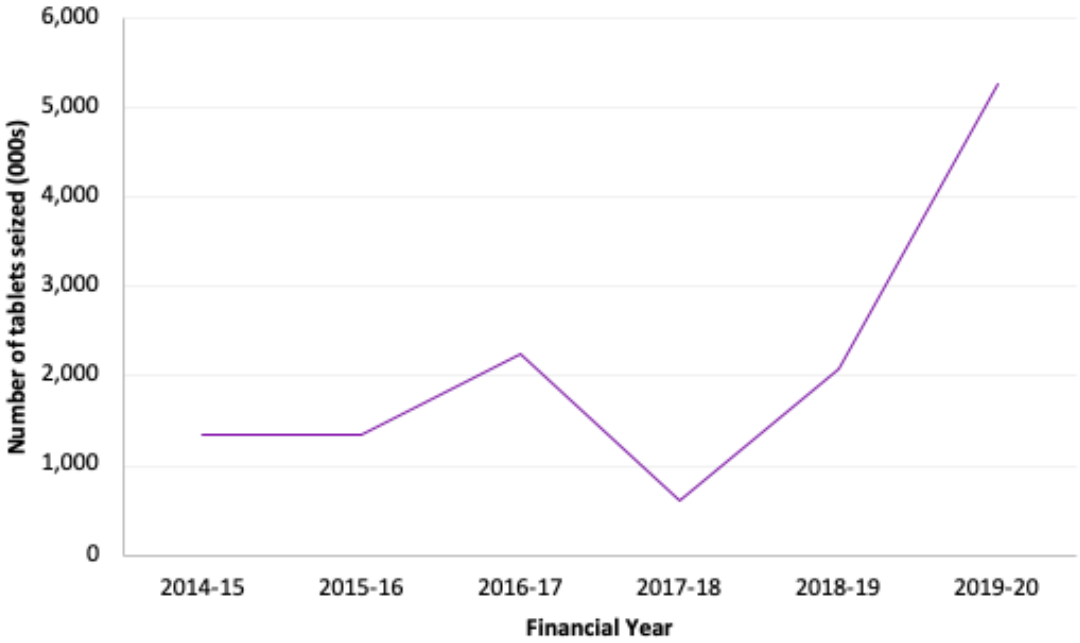

Figure 3.19. Total estimated quantity of benzodiazepine tablets seized by Police Scotland, 2014-15 to 2019-20. (Source: DSOC[236]).

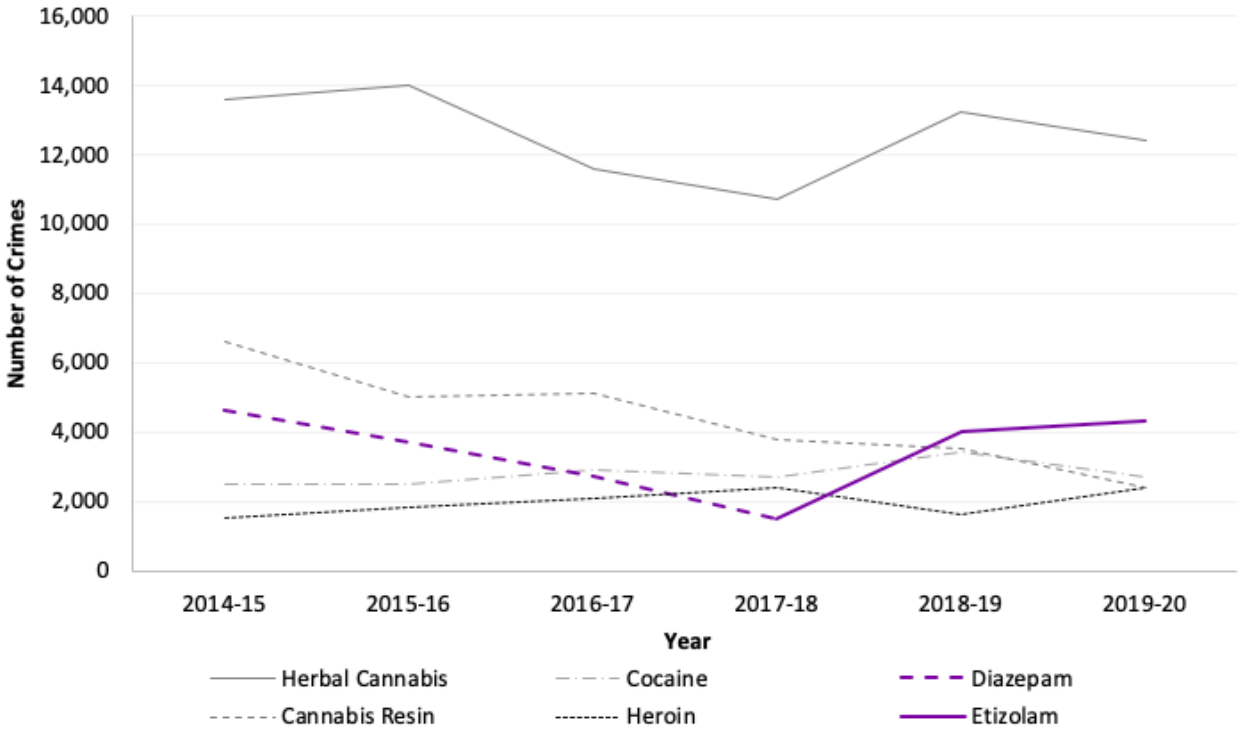

Figure 3.20. Estimated number (to nearest 100) of drug possession crimes by drug type, 2014/15 to 2019/20. (Source: DSOC[236]).

Whilst almost certainly under-estimates, these statistics give an indication of the scale of illicit benzodiazepine availability in Scotland. However, firm conclusions cannot be drawn from the annual trends in the data as the quantity of drugs seized can fluctuate markedly with a single instance of a very large seizure operation. For example, during 2017, police seized 1.67 million tablets containing etizolam at just one illicit production site.[196]

Returning to the SCJS data, Figure 3.21 summarises the responses to the question 'How common do you think drug dealing and drug abuse are in your area?' for Tayside against the national average. 'Local area' is defined as the area within a 15-minute walk of the respondent's home.

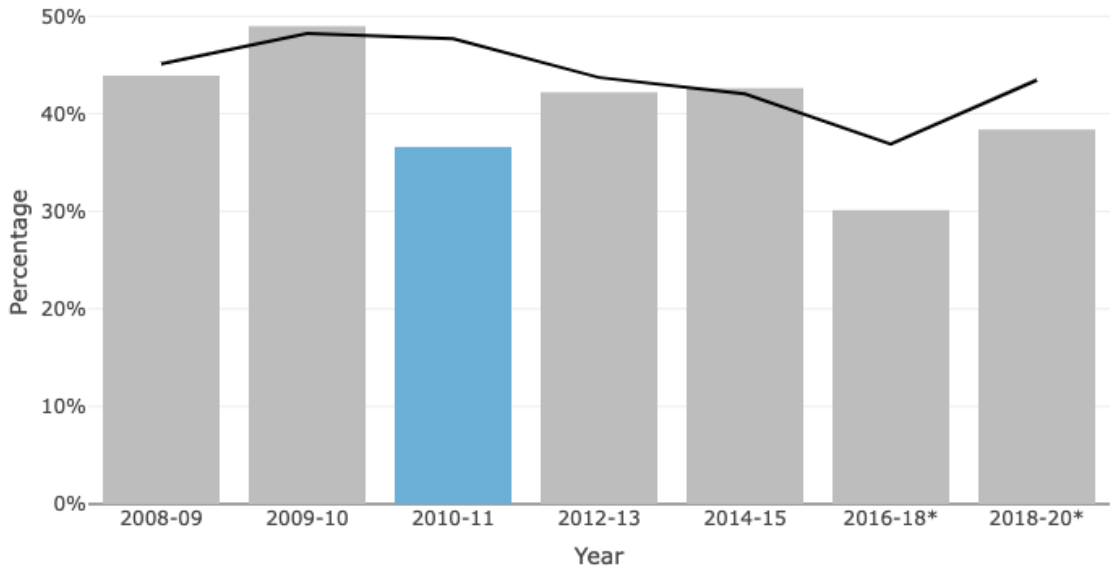

Figure 3.21. Percentage of respondents that reported drug dealing and drug abuse as very common or fairly common in their local area in Tayside Police Division (bar) and the national average (line). (Source: SCJS[221]).
*From 2016, responses from two survey years are combined for more robust estimates at a Police Division level.
[The blue bar represents a statistically significant difference between the national and regional percentages.]

In the two-year period of 2018/20, 38.4% of 170 respondents in Tayside responded that such issues were very common or fairly common. This was not determined to be statistically significantly different to the national average of 43.4% of 2844 respondents. Whilst this is not specific for benzodiazepines, it gives an indication of the level of concern in the general population regarding the use of illicit drugs. This percentage is likely to be much higher in areas where illicit drug use is known to be more prevalent such as urban areas and areas of with higher levels of deprivation.

3.5 Vulnerable Groups

3.5.1 Older People

The particular vulnerabilities to benzodiazepines in older people are briefly discussed above in Section 2.5.1. However, after re-examining the data sources discussed above with a focus on people aged 60-65 years and above, the use of benzodiazepines amongst this population appears to be very low. Nationally, self-reported use of 'tranquilisers' was just 0.2% in people aged 60 years and above who responded to the SCJS in 2018/20.[221] Interestingly, this was the only age group within this survey where females (0.3%) reported higher use than males (0.1%) as shown in Figure 3.22.

Amongst the toxicological samples analysed between November 2020 to April 2022, which are assumed to be submitted from people with a known or suspected history of illicit drug use, just 0.3% of those samples testing positive for a benzodiazepine were from people aged 65 years and above.

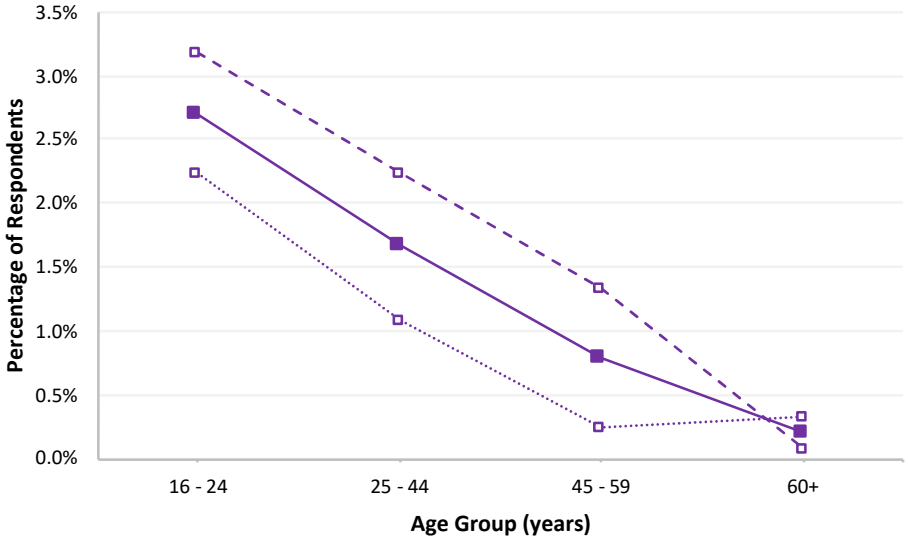

Figure 3.22. Percentage of all Scottish Crime and Justice Survey 2018/20 respondents reporting using benzodiazepines without a prescription in the last four completed surveys. (Source: SCJS[221]).

Correspondingly, benzodiazepine-related outcomes in older people are extremely rare. Only 2 of the 295 benzodiazepine-related deaths in Tayside in 2018-2021, zero of the 641 benzodiazepine-related NFODs from November 2019 to May 2022, and just 11 of 970 benzodiazepine-related hospital stays from 2010-2021 were in people aged 65 years or above. Therefore, it can be concluded with confidence that older people do not represent a substantial proportion of health needs associated with benzodiazepines in Tayside.

3.5.2 Women

Much of the epidemiological differences in benzodiazepine use and its associated harms between the sexes are described above. However, the vulnerability posed by pregnancy warrants further attention. Unfortunately, there is little detail provided by routine data on the rates of benzodiazepine use in pregnancy. PHS produce a statistical report on Births in Scottish Hospitals based on maternity data (SMR02) and the Scottish Birth Record (SBR), the latest of which covers the period up to 31 March 2021.[237] However, since 2017, this data no longer contains information on drug use during pregnancy, nor has any of the previous data explored the types of drugs used in detail.

Nevertheless, the available information is presented in Figure 3.23. It shows that from 2011/12 to 2015/16 the rate of babies affected by the maternal use of drugs in Tayside was higher than the national rate until 2016/17 when the regional rate fell below the national average. During this period, data completion, i.e. the proportion of births in which maternal drug misuse was recorded, was 98% or higher. Since 2016/17, data completion has fallen precipitously from 80% in 2017/18 to a low of 21% in 2020/21 due to the lack of mandatory recording of such data. Hence, the regional rate veers markedly from the national average, likely both as a result of the poor data quality and the now selective reporting of such information. The use of benzodiazepines in pregnancy, and the related maternal and neonatal outcomes, are thus identified as knowledge gaps that require further exploration via bespoke data collection and analysis.

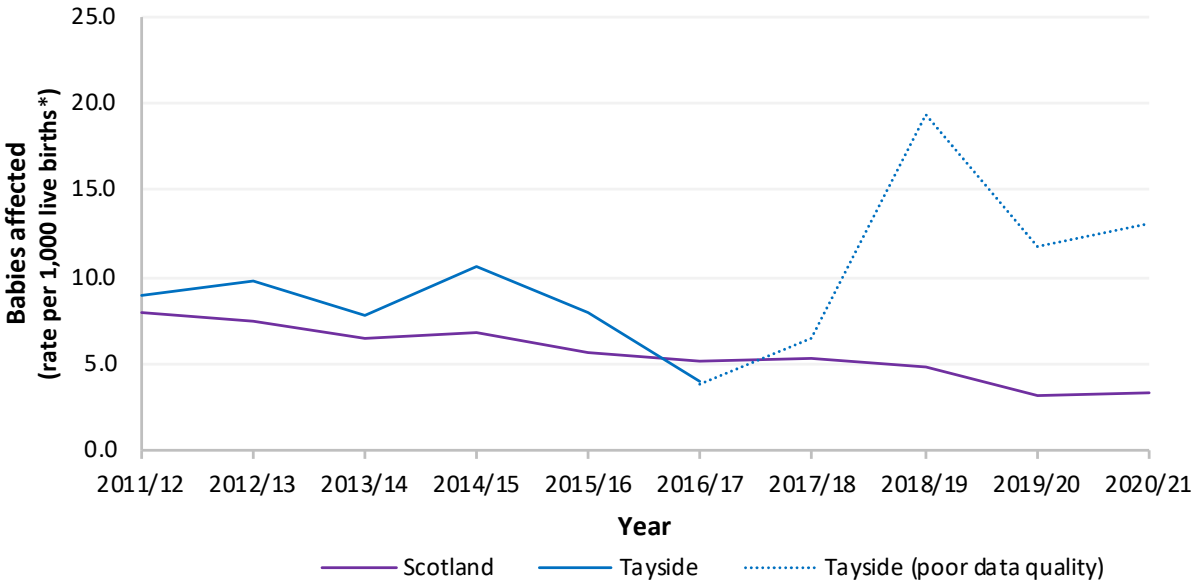

Figure 3.23. Rate per 1,000 live births of babies affected by maternal use of drugs in Tayside and Scotland, 2011/12 to 2020/21. (Source: SMR02/SBR/PHS[237]).

*the denominator used for the rate calculation is only those mothers with a known and recorded drug misuse status

3.5.3 People with Mental Health Conditions

Figure 3.24 displays the percentage of people succumbing to a DRD in Tayside between 2018 and 2021 who were known to have a psychiatric comorbidity at the time of death by the drug classes implicated. In total, 71.3% of all DRDs occurred in people with a comorbid psychiatric condition with little variation according to the drug classes implicated. In those deaths in which benzodiazepines were implicated, 70.5% had a recorded mental health comorbidity. The lack of variation may be explained by the implication of multiple drugs in most of the DRDs.

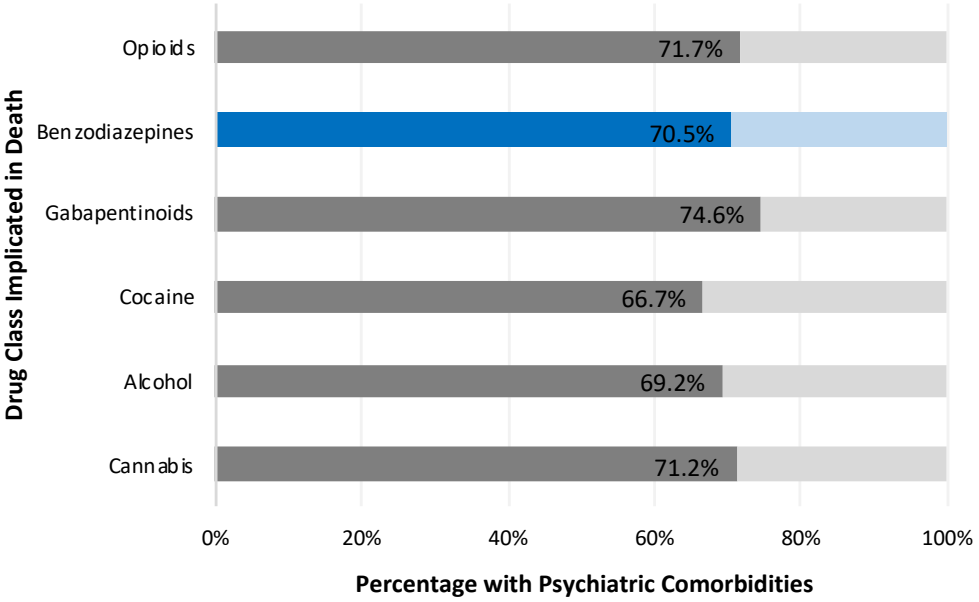

Figure 3.24. Percentage of drug-related deaths in Tayside between 2018 and 2021 in which a psychiatric comorbidity was present, by drug class implicated in the death. (Source: NHS Tayside Health Intelligence).

Regarding hospital stays, of all 710 benzodiazepine-related discharge diagnoses occurring over the same period, 17.5% were also coded for a mental or behavioural disorder (in addition to F13 or T42.4 discussed above), as either a secondary diagnosis (14.1%) or as the main diagnosis with a secondary benzodiazepine-related diagnosis (3.3%). This represents only those with a mental or behavioural disorder contributing to the hospital stay, as determined by the diagnosing clinician or coding staff, and so is likely to be a significant under-estimation of prevalent psychiatric comorbidity.

Whilst there are limitations in both of these statistics, the rate of psychiatric comorbidity in people suffering health harms as a result of their benzodiazepine use appears to be very high. People with psychiatric conditions are therefore identified as a vulnerable group amongst people who use benzodiazepines.

3.5.4 Prison population

The Scottish Prison Service (SPS) conducts Addiction Prevalence Testing (APT) during one month of each year in all Scottish Prisons in which people arriving into and leaving custody are tested for a range of illegal substances. However, in recognition of the changing drug trends, APT was suspended in 2019 to enable an in-depth review of this process. Therefore, the latest set of results are from 2018/19.[238]

Of the 1017 tests conducted on people entering prison in Scotland in 2018/19, 71% were positive for illegal drugs including the illicit use of prescribed medications. Cannabis was the most commonly detected drug (44% of all tests), followed by benzodiazepines (33%) and 'opiates' (29%). A further 522 tests were conducted at the time of liberation and 26% of these were positive for illegal drugs. Buprenorphine was most commonly detected (12% of all tests), followed by 'opiates' (8%) and benzodiazepines (6%).

There are two prisons in Tayside serving males residents: HMP Perth and HMP Castle Huntly. Castle Huntly is an open prison that accommodates low supervision adult male offenders from across Scotland. APT was not conducted for people entering Castle Huntly in 2018/19 and only nine tests were conducted on liberation, none of which detected the presence of any drug. HMP Perth is a large prison that holds on average 678 prisoners per day, received predominantly from courts across Tayside as well as the bordering area of Fife.[239] Of the 154 tests conducted on people entering HMP Perth in 2018/19, 77% tested positive for illegal drugs with cannabis the most common (56% of all tests) followed by 'opiates' (38%), benzodiazepines (38%) and cocaine (18%) (see Figure 3.25). On liberation, 32% of the 55 tests conducted were positive for illegal drugs: 16% for buprenorphine, 11% for 'opiates', 4% for cannabis, and 4% for benzodiazepines whilst none were positive for cocaine.

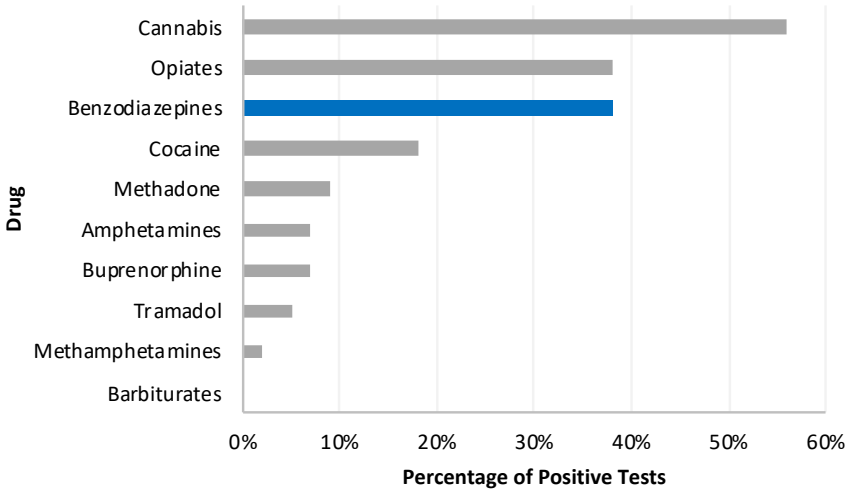

Figure 3.25. Results of Addiction Prevalence Testing for the 154 tests conducted on people entering HMP Perth in the 2018/19 testing period. (Source: SPS APT[238]).

These patterns suggest that the use of benzodiazepines, amongst other substances, is particularly prevalent in the population of offenders entering prison when compared to the general population, both in Tayside and nationally. This prevalence appears to be much lower on liberation which may indicate a difference in motivation to use drugs during these two periods, the effect of any rehabilitative programmes conducted in prison, or simply a relative lack of access to illicit drugs whilst incarcerated.
The Scottish Prison Survey aims to qualify, rather than quantify, the experience of people in Scottish prisons and is conducted every two years, most recently in 2019.[240] It is a voluntary, self-completed questionnaire that includes questions on living conditions, family contact, healthcare, and relationships. It is distributed to all prisoners in all 15 establishments on the day of fieldwork and is, in this sense, a census. However, response rates have declined in recent years; the response rate in 2019 was 30%.

The survey provides some insights into the recognised association between illicit drug use and committing criminal offences, and drug use within prison settings: 45% reported being under the influence of drugs at the time of their offence, 16% reported that they committed their offence in order to get money for drugs, whilst 24% were receiving treatment for problem drug use before their imprisonment. Overall, 41% of respondents reported that their drug use was a problem for them outside of the prison environment. Drug use inside prisons is less prevalent but nonetheless much higher than in the general population. More than one in four (28%) of all respondents reported using drugs in the month prior to the survey, an increase on the same figure from 2017 (22%), whilst 39% reported having ever used drugs in prison. Concerningly, 12% reported having first used drugs whilst in prison. The most commonly used drugs were cannabis (50%), benzodiazepines (46%), buprenorphine (as Subutex) (45%), and heroin (31%). Furthermore, three in ten (30%) reported using an NPS whilst in prison, 22% of which were described as 'downers' which is likely to include benzodiazepine-type NPS.

Responses from the prisons in Tayside (from the 2017 survey) do not indicate any substantial differences from the national picture. The proportion of respondents reporting having ever used illegal drugs in prison was 42% and 46% in HMP Perth and Castle Huntly respectively. However, there was a difference in recent drug use between these two establishments: 30% of the 255 prisoners in Perth reported having used drugs in the last month compared to 11% of the 263 respondents at Castle Huntly. This difference is likely to be explained by the selective population at Castle Huntly: offenders only progress to the open prison at Castle Huntly following a 'robust risk management process and a period of closed conditions.'[239] Whilst the motivation to use illicit drugs is likely to be less in this prison population as the focus is on reintegrating back into the wider community, the prevalence of illicit drug use remains well in excess of that in the general population.

Objective evidence of benzodiazepine use in prisons is provided by the toxicological data referred to above. Of the 481 samples submitted to the laboratory from prison settings, 43 (8.9%) were positive for benzodiazepines. Similarly, objective post-mortem evidence is provided by the Scottish Prison Service in their open quarterly release of information regarding deaths in Scottish prisons.[241] From January 2019 to June 2022, 16 deaths occurred in prisons in Tayside, three of which involved etizolam according to the Medical Certificate Cause of Death and a further one cited 'prescription medication toxicity'. From 2013 to 2018, where information on the cause of death is only available from the Fatal Accident Inquiry, five out of 18 deaths in Tayside prisons were cited as 'drug-related' and further one as an 'event of undetermined intent/overdose'.

Additional evidence of the vulnerability of the prison population is revealed by further analysis of the additional comments provided by SAS as part of the NFOD data described above. It reveals that at least 47 (3.2%) of the 1474 NFODs recorded were either in the prison setting or in the community following a recent release from prison custody, at least 12 of which occurred on the day of release or the following day.

Given that the prison population is relatively selective of people known to use illicit drugs owing to the criminalisation of such behaviour, it is difficult to draw firm conclusions from the above information. The data suggests that many prisoners are incarcerated as a result of actions taken whilst under the influence of illicit drugs (drug use has 'caused' them to be incarcerated) whilst others have taken illicit drugs for the first time in prison (incarceration has 'caused' them to take drugs). However, what is clear is that the prison population is identified as having particularly high rates of benzodiazepine use and are therefore vulnerable to the adverse outcomes that may result. It also appears that this vulnerability and its associated needs do not end at the point of liberation.

4. Corporate Assessment

4.1 Approach

The corporate approach of a health needs assessment involves 'the systematic collection of knowledge and views of informants on healthcare services and needs.'[9] In the present context, the term 'informants' refers to those interested parties or stakeholders that have intimate local knowledge of benzodiazepine use and its associated health needs as well as how these needs interact with specialist drug treatment services and the wider recovery support network across Tayside.

The knowledge and views of two groups of experts formed the basis of this corporate assessment. Firstly, a series of unstructured consultations were conducted with a total of 17 professionals from a diverse range of backgrounds such as clinical services, health and social care partnerships, community justice, and the third sector (see Acknowledgements). These consultations were not recorded so as to provide an open platform for honest opinion sharing, as such, these opinions are not directly attributed to individuals. Furthermore, six local cross-sectoral meetings of various different groups of professionals, all working in the field of drug and alcohol recovery services, were observed to collect additional knowledge and views. The principal aim of these consultations was to aid the development of a topic guide for use during the subsequent period of community engagement.

Secondly, a series of in-person semi-structured interviews and one focus group were conducted with a total of 12 members of the Tayside community, all of whom were considered experts-by-experience (EBEs) owing to their past and/or present use of benzodiazepines and their interaction with local specialist drug misuse services and third sector organisations (TSOs) in Tayside. These EBEs were identified and voluntarily recruited with the aid of three key informants from three separate recovery-oriented TSOs working across Tayside. In total, the views of seven women and five men were collected. This included 10 residents of Dundee City and two residents of Angus, all of whom were within the approximate age range of 30-55 years old. Amongst the group was a range of experience with benzodiazepines including past and current use, use of 'prescribable' and 'street' benzodiazepines, those who consider themselves recovered and those still in active recovery, and those with and without frequent use of other substances.

As the sample of EBEs who participated in this corporate assessment was selective of those who are currently engaged with third sector recovery-oriented services, the views expressed and described here are not representative of the total population of people who use benzodiazepines in Tayside. It is possible that this group was more critical of statutory services than would be the case if participants had been recruited from those statutory services. Further, the sample did not include those people who are not currently known to or engaged with any type of service, an underserved population who may have different views to the participating EBEs.

The inherently subjective nature of this knowledge, albeit influenced by vested interests, aims to be complementary to the more objective and quantitative information described above in the epidemiological assessment and therefore asks the following qualitative questions:

- Why and how do people use benzodiazepines?
- How do benzodiazepines harm the people who use them?
- How do people who use benzodiazepines appraise current services?
- What services do people who use benzodiazepines want?

4.2 Key Findings

4.2.1 Why and how do people use benzodiazepines?

- For most, the motivation for using benzodiazepines was as a coping strategy for their stressful and chaotic lives; often this was in order to self-medicate previous traumatic experiences.
- The most commonly desired effects were to relieve anxiety and to aid sleep, i.e. the licenced indications, whilst some sought more abstract feelings of 'oneness' and 'feeling whole'.
- Other influences included the prevalence of benzodiazepine use amongst their peers and communities, the availability and low cost of 'street' benzodiazepines, the poor quality of heroin requiring a 'top-up', and the rise of crack cocaine use driving demand for a 'come-down'.
- Many described elements of both physical and psychological dependence. For some, the need to avoid withdrawal symptoms had become more influential than their original motivation.
- All of the experts-by-experience described having used benzodiazepines alongside other drugs, with heroin, methadone, alcohol, and crack cocaine being most common.
- In general, there were appropriate perceptions of the risk associated with (particularly 'street') benzodiazepines although this was mostly outweighed by the perceived benefits, whether using 'prescribable' or 'street' benzodiazepines, and the desire to avoid withdrawal symptoms.
- Some described using appropriate harm reduction strategies such as taking only small amounts of newly purchased drugs, buying in bulk for consistency of effects, and consuming only in safe environments.

4.2.2 How do benzodiazepines harm the people who use them?

- Withdrawal symptoms were common with psychological syndromes that included intense anxiety and paranoia, as well as physical complaints of fevers, tremors and sweating alongside leg pains, body aches and gastro-intestinal disturbance.
- Three of the 12 experts-by-experience reported having had seizures although none attributed them to their benzodiazepine use (two reported epilepsy and one alcohol withdrawal). None reported having overdosed, either with or without the use of other substances.
- Adverse behavioural and cognitive effects were very common. Changes in personality, out-of-character violent acts and memory problems predominated, with several recounting how these effects had resulted in either custodial sentences or psychiatric hospital admissions.
- Significant social harms, many as a result of the behavioural effects, were similarly common with reports of breakdowns in important personal relationships, vulnerability to crime, the death or imprisonment of family members, and the pervasive impact of societal stigma.

4.2.3 How do people who use benzodiazepines experience current services?

- All 12 experts-by-experience were critical of statutory drug services. The main complaint was a perception of inaccessibility and a lack of options for treating problem benzodiazepine use.
- The reasons for denial of prescription benzodiazepine substitution therapy and access to residential rehabilitation were regarded as poorly explained and perceived as an injustice when compared to the treatment options available for opioid and alcohol dependence.

- Several of the experts-by-experience directly attributed the abrupt cessation of their prescription diazepam as a root cause of their current dependence on 'street' benzodiazepines. Others cited this as a factor in their increased use of other substances such as methadone and alcohol.
- Many viewed the advice from statutory services to continue to self-manage their own detoxification from 'street' benzodiazepines as a contradictory and illogical as well as unrealistic whilst 'living in the madness' of problem drug use.
- Access to mental health services was viewed as similarly inadequate, with some describing an apparently paradoxical situation in which eligibility for psychological therapies is dependent on stable drug use which itself, for many, is dependent on improved mental health.
- Most of the experts-by-experience had a very strong perception of stigma during interactions with both general and specialist clinical care. Many felt they were treated according to stereotypes with some describing feeling infantilised, patronised and ignored.

4.2.4 What services do people who use benzodiazepines want?

- In general, the experts-by-experience expressed a need for better choice, more options, and a person-centred approach to their problem benzodiazepines use, to be 'given a chance'. The most pressing expressed need was for access to medication (e.g. diazepam) assisted treatment.
- Easier access to psychosocial interventions was expressed as an urgent need in both benzodiazepine dependence and to explore the psychological needs relating to past trauma.
- Residential rehabilitation was also seen as a desirable treatment option, one that should be made available at a time when the person feels it is most likely to be beneficial. The importance of both pre- and post-rehab management and support was widely acknowledged.
- Access to group therapies, both clinical and holistic or activity-based, were also seen as an important part of the recovery process in encouraging social engagement, building confidence, and providing the structure and routine necessary for successful long-term recovery.
- Opinions on the potential provision of a confidential and anonymous drug testing service were mixed. Most were ambivalent, some viewed it as a potential 'game-changer' as a harm reduction tool, whilst others viewed it as open to abuse and exploitation.
- Better education on how to support and manage people who wish to reduce or stop using benzodiazepines for all professionals working in drug recovery services was also requested, some wishing to see a greater presence of peer support workers in specialist and general clinical settings.

4.3 Why do people use benzodiazepines?

4.3.1 Motivations and triggers

The most direct consideration of why a person would seek to use benzodiazepines is to understand the desired effects. Most responses from the EBEs related to achieving effects similar to the legitimate therapeutic indications for which benzodiazepines are licensed: to relieve anxiety and to aid sleep. Others spoke of more abstract effects of 'oneness' or 'warmness' and 'feeling whole' which related to their ability to function normally and perform routine activities of daily living, some referring to benzodiazepines as 'my little helper'.

However, beneath the desire, or need, to experience these effects were a variety of underlying motivations, many of which related to experiences of bereavement or other significant past trauma and subsequent problems with mental health.

> 🗣 *It was round about when my mum was diagnosed with breast cancer and …I started taking–like–the odd couple … and it just sort of eased it a bit. It just sorted of numbed it. … My mum sadly passed and then … I've just got stuck on them.*

> 🗣 *It's flashbacks and smells and it's–like–triggers … my trigger takes me to time or a place that's a bad place … it's not a good memory. … For me it's about trying to [get away from] that … or just trying to feel alright with that.*

Most of the EBEs interviewed also described powerful contextual influences that surround living with problem drug use, a context that one interviewee described as 'living in the madness', and that benzodiazepines are just one substance amongst many that constitute this environment. Benzodiazepines were described as 'part and parcel of heroin life' and that 'along with benzos comes a whole other family of drugs'.

> 🗣 *It's like you're on a boat, and you've got an oar but your oar's broken. ... It's like you cannae paddle anywhere ... because all these drugs and circumstances around yer. … If you took benzos out of that whole equation, I could probably guarantee you that my life would probably be a bit different.*

There were also local drug-related factors that may have contributed to the recent rise in the rates of benzodiazepine-related harms. Many of the professional experts working in the third sector cited a noticeable change in overall drug-taking patterns across Tayside, and specifically Dundee. They referred to reports from their service users of a fall in the quality and purity of heroin across Tayside, the small number of heroin dealers still active in Dundee, the relative very low cost of 'street' benzodiazepines, and the rise in crack cocaine use occurring in parallel with an increase in demand for 'downers' as 'landing gear' to ease the associated unpleasant comedown. Some of these views were corroborated by the EBEs during the interviews.

> 🗣 *I think etizolams are cheap …it's cheap! And then if you've got crap quality heroin…*

> 🗣 *Drugs have changed in Dundee, haven't they? It's went fae smack and Vallies to crack and Vallies.*

The higher order motivations and triggers should not be neglected. Whilst somewhat beyond the scope of this assessment, one clinical interviewee stressed the importance of political action on social exclusion, poor housing, inadequate education and poverty as a form of primary prevention of problem benzodiazepine (and other illicit drug) use.

4.3.2 Patterns of use

Many EBEs described how benzodiazepines were mostly used alongside other substances, either in an attempt to potentiate the effects of the other drug (most often opioids), to bridge the gap between supply of other illicit substances (again, usually opioids), to alleviate the negative effects during the comedown from psychostimulants (such as crack cocaine), or to protect against the withdrawal from alcohol.

> 🗣 *People would take them on top of their heroin ... to get more out of it. … Or if your withdrawing off heroin, you'll take the Vallies to kind of get you through until you get another bit.*

> 🗣 *You'll take Valium for your comedown, for your sleep, so you're settled and at ease.*

> 🗣 *Over the years when I was drinking–drinking and partying and all that–I knew if I stopped I would have a seizure–it's an automatic thing–so I started taking [benzodiazepines]. So I suppose for a while I did have a habit.*

However, for others, the use of benzodiazepines had become part of the daily rhythm of their lives and had developed into a habitual pattern of use regardless of any specific motivation or trigger.

> 🗣 *At work I'm fine. I relax. I dunnae even think about them. It's as soon as I get home, even just started to make my tea, that's a problem, ken? 'Cause it's like, "aww hurry up, benzo time!" Ken? ... I call it–I think, "Aww benz o'clock."*

> 🗣 *I take like a couple in the morning, maybe a couple in the afternoon depending on how I'm feeling. … Really now it's just [preventing] the withdrawals. … I have had periods where–like–that something'll pop up and I'll maybe take that extra couple.*

Many of the EBEs elaborated by describing how they had experienced a slow and, in some cases, imperceptible transition from self-controlled occasional use, through regular and habitual dosing, to a dependent-type pattern that was driven more by the avoidance of unpleasant withdrawal syndromes (see Section 4.4.1) than the pursuit of any desirable effects.

> 🗣 *I didn't even know I had a problem, because it snuck up on me so much, and because it was something that I was prescribed. I didn't recognise it was a problem because I was like, "This just makes me function."*

Several of the interviewees were aware that there were both pharmacological and psychological elements to their development of dependence.

> 🗣 *Basically, it goes from … you being in control, from–like–once a weekend, or–like–twice at a weekend … and then it becomes you're waking up and you're just not feeling yourself anymore. So then it becomes a daily thing … mentally and physically needing it.*

> 🗣 *As soon as I was cut off [from my prescription], I was like, "I need this, I can't function without it." Whether that was a physiological thing or a psychological thing doesn't really matter because I was convinced that I needed this.*

For others, it was apparent that the psychological aspect of dependence was predominant with one interviewee describing benzodiazepines as their 'crux' and that they would sooner be taken off their methadone prescription than to be left without them.

> 🗣 *They said that the rules around benzos were changing and that–erm–that they were taking people off them which was really frightening 'cause, at that time, I'd been on them for ten years. … All I could think was that if they take me off o' this, I'll gi'e back to the*

way I was before I took the first two milligrams, which was a nervous wreck. I was scared of my own shadow!

From their experience of managing and caring for people who use benzodiazepines, several of the clinical staff hypothesised that there are several different patterns of use, or perhaps a spectrum of use, identifiable amongst people who use benzodiazepines. This included what was referred to as a 'very high risk' group of people: those who are currently consuming very large quantities or doses of (typically) 'street' benzodiazepines, are very likely to be using other illicit substances such as opioids and gabapentinoids, are not necessarily acknowledging the potential for harm, and who are most likely to become known to services through the non-fatal overdose pathway or, sadly, as a drug-related death.

A lower risk group, at the opposite end of the spectrum, was also described: those who have recognised the potential for harm, are currently motivated to reduce their benzodiazepine use, are stable on (or no longer requiring) opioid substitution therapy, were engaging with drug services and key workers as well as third sector and informal support groups, and are more likely to have an underlying psychiatric comorbidity (such as an anxiety- or trauma-related disorder) for which they are currently self-medicating and for which there are known and effective alternative pharmacological and psychological treatment options.

One clinician identified another, uniquely at-risk group: people who are long-term users of legitimately prescribed benzodiazepines, mostly for trauma-related diagnoses, who do to not identify as 'substance users' and are therefore hesitant or resistant to engage with substance use services and so continue to remain hidden from services despite unmet health needs and an enduring capacity to benefit.

4.3.3 'Prescribable' and 'street' benzodiazepines

Whilst several of the EBEs described their first experience of taking benzodiazepines being their own prescription medication for indications such as anxiety or as part of an alcohol detoxification regimen, many also described using a known friend's or relative's prescription diazepam.

> 🗣 *When I started taking them, it was my gran's. I used to steal them off my gran. She got a repeat prescription. ... She had bowls ... up in the bathroom so I used to go up and take them and I liked the feeling of them.*

> 🗣 *[My then partner] got prescribed a five-milligram diazepam and he gave us–he just used to give us a half–half a five-milligram tablet and I noticed it made us feel so much more at ease. I just wasn't as so agitated and nervous and stuff, and that's kinda where it started.*

However, in most cases this was soon followed by seeking alternative sources such as purchasing 'real Valium' (i.e. 'prescribable' benzodiazepines) from strangers or known dealers but ultimately turning to illicit 'street' benzodiazepines when the rates of diazepam prescriptions, and therefore diversion to the illicit market, began to decline.

> 🗣 *When I got cut off my prescription, that's when I went to the street because I then wasn't able to get it prescribed. … I knew somebody who was getting it prescribed as well–and it was awful because they were an old person–but I would get it off of them.*

> 🗣 *The only time I turned to street Valium was when I got to the point where I could not get real Valium. You just couldn't get them at all, anywhere, no one had them.*

That 'street' benzodiazepines are not in fact the same as 'prescribable' benzodiazepines was a well-known fact for all those EBEs who had made this transition and many expressed the view that they were now consuming an entirely different substance than what was initially intended.

> 🗣 *For me it started off with real Valium … then fake Valium is totally different, you cannae speak about the two of them like they's the same, ken?*
>
> 🗣 *We eventually knew that it wasnae Valium we were getting … 'cause you were [falling unconscious], forgetting things and all that.*

The use of benzodiazepines, particularly 'street' benzodiazepines, was acknowledged universally by the professional experts as a significant problem in Tayside warranting urgent attention and action to prevent further harms and deaths. Several of those who had spent many years working in Tayside reported that benzodiazepine use has been a long-standing problem. Many also referenced the polydrug nature of drug consumption across Tayside, with benzodiazepines often being secondary to another substance, and that singling out benzodiazepine use as an isolated factor behind the recent increases in DRD is a somewhat artificial division that fails to account for fact that it is mostly the interaction between drugs that is the main driver of adverse outcomes amongst this population, a view that is supported by the epidemiology presented above.

4.3.4 Perceptions of risk

This transition has brought with it a change in the perception of risk associated with the use of benzodiazepines. Whilst 'prescribable' benzodiazepines are viewed as relatively safe, mostly owing to the perceived endorsement by the medical profession given the historically high rates of prescriptions, all of the EBEs interviewed were aware that 'street' benzodiazepines bring an additional risk of adverse effects and harms due to either the unknown quantity of active ingredients, the potential relative potency compared to 'prescribable' diazepam, or the unknown adulterants and substitutes used in the manufacture of such illicit drugs.

> 🗣 *Although it's blue, it's not ten-milligram. It's usually more. Or less! You don't know!*
>
> 🗣 *You could be–like–you're on the ones that have basically nothing in them, and you end up–like–getting ones that are a lot stronger. It's dead dangerous. You end up going over.*
>
> 🗣 *The ones I've been caught with … the police have examined them. There's no diazepam in them! … Not one bit. … It was quetiapine and a number of other things.*

Nevertheless, many of the EBEs stated that they had continued to use 'street' benzodiazepines due to the severity of the withdrawal syndromes when attempting to reduce their intake as well as the perception that the need to 'escape reality' and 'getting away from the problem' still outweighed the perceived risks.

> 🗣 *It scares me. I don't what's in … these Vallies and then having to take the risk because I cannot handle the withdrawals. They're just–I've tried coming off them I don't know how many times. … I'm needing help to get off this last couple.*
>
> 🗣 *You're thinking about getting away from the problem that's causing you the problem. … When you're on drugs, you don't think about the risk. It's not 'til you're clean.*
>
> 🗣 *You hear on the street there's batches killing people. You're still gonna then take it. ... You want to escape reality at that time, physically and mentally.*

Some of the interviewees described using a variety of harm reduction strategies in an attempt to minimise this risk. These strategies included consuming a small amount of newly purchased 'street' benzodiazepines in order to test its effect before matching their usual intake, only consuming the drugs in their own home or in the presence of trusted others, buying in bulk in an attempt to maintain a supply of tablets of a

predictable strength, and ordering from the internet in the belief that this was a more reliable source than dealers on the street.

> 🗣 *I wouldn't take them all in one night … and I wouldn't go out the house. … I would sit in … and I would take maybe ten or twelve … and I would get sleep.*

> 🗣 *I try and get them off the internet when I can, when I've got money, and they're much better. … At least you're getting them in a strip. I don't know where they come from. You're getting them from Turkey or some–Albania or something. … I think they're just the generic–you know–diazepam but … they're so much better.*

Many of the EBEs also described a sense of additional risk owing to the contextual vulnerabilities of the nature of living with problem drug use, mainly through being targeted by dealers 'as a means to an end' and the normalisation of drug use in certain environments. This was cited as a factor in both perpetuating their use of benzodiazepines and in their introduction to benzodiazepines in the first instance.

> 🗣 *They're just pushing these Valium onto me and, the vulnerability, and I'm like, "Oh yeah OK. I'll take them." And like, "Yeah, yeah. No problem. I'll pay them."*

> 🗣 *You get vulnerable people who are put into like bail hostels and stuff like that who wouldn't even touch a Valium. … By the end of the week, they've been in there like seven days … and because they're no safe places or safe environments … they're starting to use Valium! … People are preyed on as well. … Drug dealers, they prey on the vulnerable.*

4.4 How do benzodiazepines harm the people that use them?

4.4.1 Withdrawal Syndromes

All the EBEs were able to describe vividly their experiences of withdrawing from benzodiazepines although the syndromes varied significantly from person to person. For many, the most common distressing symptoms were emotional or psychological in nature and centred on an intense anxiety and even paranoia. For some this was a new experience whereas others attributed it to the unmasking of the now un-medicated underlying anxiety. There were also numerous reports of difficulty with concentrating and short-term memory – a finding that was corroborated by the clinical professionals who also suggested that these symptoms remained common findings in their patients even months or years after the cessation of benzodiazepines use.

> 🗣 *It's–like–anxiety and your emotions all over the place. You're laughing one minute, you're crying the next.*

> 🗣 *It's weird because your mind goes. It's like your fracturin' your mind a wee bit, ken? It's like your cognitive … your thinking goes, your thought process, your clarity, your communication skills … you're shaky. … In your head your convincin' yersel' its 'cause you need mare but now … lookin' back … its 'cause my body was getting' rid of them.*

Physical symptoms were also common and ranged from constitutional symptoms such as fevers, excessive sweating and a general feeling of being unwell to more specific symptoms such as leg pains, twitches and tremors as well as gastro-intestinal disturbances.

> 🗣 *I'm being sick, I'm–I'm running to the toilet, it's just–like– it just comes from me, it's sweating from yer, it's just coming from everywhere, … your bones are aching, it's just–it's the worst feeling I've ever had. Yer heads all over the place, yer–yer really emotional, yer–*

it's–it's awful. The withdrawals are worse than–it's worse than opiates 'cause your minds–like–all over the place as well, yer head's banging.

🗣 *I did stop takin' 'em for three days and the doctor had to come out to me. … There was a lot of hallucinations, being sick, the tremors. I was really quite ill.*

Three of the EBEs described having seizures, although two reported they had since received a diagnosis of epilepsy whilst the other primarily attributed their seizures to an alcohol-related withdrawal syndrome. Other physical harms, not attributed by the EBEs to the withdrawal syndrome, were generally in relation to poor self-care that might be considered common amongst people living with severe problem use of any particular substance. This included appetite and weight loss, poor dental hygiene and sleep disorders. Some attributed hospital admission with severe physical illness to the deterioration in their physical health which had occurred alongside their problem drug use, but also as a result of a being unable to eat and sleep optimally due to a perceived lack of support from statutory services i.e. a prescribed benzodiazepine during periods of withdrawal.

This wide range of diverse symptoms and person-to-person variation was noted amongst the professional experts with one of the clinicians characterising the benzodiazepine withdrawal syndrome as 'highly unpredictable'. During one consultation, a hypothetical thought experiment was discussed in which the illicit supply of 'street' benzodiazepines was abruptly halted in Tayside. The consequences of such a scenario were described as having the potential to quickly overwhelm specialist drug services as well as place substantial short-term pressure on the acute psychiatric and general medical capacity of the region.

4.4.2 Adverse behavioural and cognitive effects

Almost all of the EBEs described changes in personality, some short- and some long-term. It was acknowledged that these changes may be as a result of living with problem drug use in general rather than any specific pharmacological (or otherwise) property of benzodiazepines.

🗣 *It changed me–like–completely as a person. It just completely changed my entire personality, because my world revolved around Valium.*

🗣 *I want me back now. It's just, I'm not me on them. I'm not–like–the same person. … I wouldn't do some of the things that I've done and said and think, and your thought process aren't the same and that either.*

However, several of the interviewees were adamant in their attribution of instances of aggression and violent behaviour to their use of 'street' benzodiazepines in what appeared to be descriptions of paradoxical reactions, or indeed unwanted effects of other active substances within these illicit tablets. Many described feeling as thought they were 'invincible' or were wearing 'a suit of armour' and 'could fight the world'.

🗣 *I turned into The Hulk. Like at one point–and I don't know I think it was like an adverse reaction. … It sounds awful but–like– by the time I got put in Carseview, I was ready to fight everybody and its why I got locked in my room at one point … which is the opposite of why I took it in the first place.*

For some this took the form of severe acute behavioural disturbances which included significant acts of violence. In some cases, this resulted in life-changing consequences such as long custodial sentences.

🗣 *I took–must've been about four or five ['street' benzodiazepine tablets] … I canna remember gettin' home to my girlfriend's but I smashed her house up wi' a baseball bat and*

I've nae memories. I've got flashbacks of gettin' lifted and stuff like that but I've nae recollection of daein' it. … I got put in prison … because of that.

🗣 *I was so off my face on them, I didn't really know what I was doing. … There was a big argument. … I got the 'Vallie Rage' is what people would call it on the street. … I just lost it and I just said to him, "Do you want me to put a blade through you?" and he went, "Aye, on you go. Do it. You've not got it in you. Go for it, go for it, go for it." And I just done it, but I would never have done that sober. It was purely because I was on Valium.*

Many of the EBEs reported at least some impact on their cognitive abilities as a result of their 'street' benzodiazepine use, such as a difficulty concentrating and forgetting appointments. Memory loss was a frequent complaint and took many forms. These ranged from temporary but complete anterograde memory loss, or 'black outs', after having ingested of a significant quantity of benzodiazepines, to more subtle difficulties in accessing long- and short-term retrograde memories. Indeed, several interviewees requested that questions were repeated after they had already begun to answer. In some instances, periods of memory loss were compounded with other harms such committing criminal acts, becoming a victim of crime, and being involved in disturbing and unexplained events.

🗣 *I've woke up in Perth prison, not been remembering being in court, being remanded, I've wet the bed in prison and everything. I couldn't remember being taken there. I had to ask why I was there! Luckily it was nothing serious.*

🗣 *[It was never my intention to be] out my face to the point where I don't know where I was going, or who I was with, or what I was doing, or who was stealing my purse, or who was emptying my bank account. 'Cause all these things happen and you get up the next day and you've no recollection at all of what's happened. You might have no recollection of who you spoke to, where you've been, what you've done.*

🗣 *I was like really out of my head … must've just flaked out on the couch. … Woke up in the morning … the clothes I had on were covered in blood, my jeans–all down the legs of my jeans were all covered in blood, my jumper was all blood. I wasn't bleeding! I couldn't find anywhere that I had been bleeding from, didn't know where the blood had come from, didn't know what had happened, didn't know who or what had happened to … that was just these street Valium. There was no alcohol or anything.*

4.4.3 Social harms

The adverse behavioural and cognitive effects described above have already referenced various social harms such as the impairment of inter-personal skills and interactions with the criminal justice system, both as perpetrator and victim. A further theme emerged amongst the EBEs regarding damaged relationships, whether as a direct result of their own behaviour whilst under the influence of substances, due to indirect downstream consequences such as incarceration, or through the effects that substances have had on their loved ones. Whilst these harms could be attributable to the often-chaotic nature of living with problem drug use in general, many of those interviewed specifically cited the role that benzodiazepines had played.

🗣 *People hated me–like–and I don't blame them. People who I was friends with before now know me as "Crazy [name redacted}." … But it wasn't–that wasn't me–like–that was the drugs! … Trying to explain that to people–like, "You know that time that I pulled a bottle on you? That was not me!" … I'm mortified.*

> 🗣 *I would say me and my Dad have never been the same since. He's been to see me once in prison. … He said, "I'll come and see you once, and once only" and he's never been back. So I would say that that's' probably irreparable. … He had [a significant illness] recently so that's me thinking–like, "Holy shit! … I've wasted twenty years of my life on all this bullshit."*

> 🗣 *I've not got a dad, I've not got a mum mentally, and my sister's dead and my brother's in the jail. And I'm sitting here just out the jail. … Pretty much all to do with benzos.*

Another frequently raised social harm was the societal stigma that is attached to problem drug use. Whilst, again, much of the commentary was not necessarily specific to benzodiazepines, all of the EBEs made multiple remarks about how stigma affects their everyday lives and comments on this theme typically arose organically and without prompting. There was a general impression amongst the EBEs that they, as people living with problem drug use, are seen as less than human, are all 'tarred with the same brush' and are regarded as the 'lowest of the low of society'.

> 🗣 *You're third class citizens, you're not even second class, you're third. That's how you feel … and that's how you're spoke to a lot of the time as well. … Like you've no got a brain between you two ears.*

Several interviewees did report a difference in the stigma surrounding benzodiazepines specifically, when compared to other substances of potential misuse. This included a comparison to alcohol and the relative societal tolerance of binge-drinking whereas benzodiazepine use is 'not seen as socially acceptable'. Another interviewee described how a relative, who was known to use cocaine recreationally, would describe people who use benzodiazepines and other 'downers' as a 'junkie' despite their own use of psychostimulants. The theme of stigma in the context of interacting with general clinical and specialist drug services is discussed in more detail in Section 4.5.6.

There are potentially additional wider social harms relating to the impact on the children, families, dependents and loved ones of people who use benzodiazepines that do not lie within the scope of this corporate assessment. It is likely that these wider social harms are both common and significant and are thus identified as a further research need.

4.5 How do people who use benzodiazepines appraise current services?

4.5.1 General impressions

Most of the EBEs were extremely critical of statutory services. This may be related to the selective nature of the sample, as described above, and the views described here may have been different had the participants been recruited directly from the statutory services. Nevertheless, these views are informative of the experience that at least a proportion of people using benzodiazepines in Tayside have encountered.

The overall response of the interviewees and focus group attendees was one of a general lack of options for professional help with their benzodiazepine use. Whilst it was recognised that funding and resource constraints are a significant limiting factor in service provision, many of the EBEs saw the wider drug recovery network in Tayside, and particularly in Dundee, as dysfunctional with one focus group attendee describing it as 'a very broken system trying to fix broken people'. There were several comments regarding how specialist drug services did not connect well with other healthcare services, such as mental health and gynaecology. Many interviewees ultimately attributed their past or current problem drug use as a consequence of not being able to receive adequate support.

> 🗣 *If I'd have had the help, at every time, at every junction, I would never had've been the way I am, the way I was, the person that I've become. Like, seventeen-year-old, I wasn't in that room beggin' for Valium 'cause I wanted Valium., I was wantin' help!*

Others described specific contextual factors that presented barriers to their engagement with recovery services. These ranged from geographical limitations such as the dispersed nature of the recovery community across the seven towns of Angus, being intimidated by the 'hectic' environment in some community hubs in Dundee, the presence of drugs in community recovery settings, and the perceived actions of the Police in targeting recovery cafes for surveillance as likely hotspots of drug dealing.

> 🗣 *Nine times out of ten the Police will be camped up outside, which I don't think is fair. … The Police would just sit outside and it would put a lot of people off going.*

However, most of the EBEs described how they generally felt more comfortable in TSO settings when compared to engaging with the NHS or other statutory services. This is perhaps expected given the difference in the nature and intensity of the services provided, with statutory services being a more transactional, clinician-patient dynamic whilst the TSOs are able to provide much lower intensity but more frequent and relationship-focussed engagement.

Considering relationships, a lack of continuity of statutory service key workers was presented as a significant limitation in the quality of care received by the EBEs, recognising that this is a crucial factor in developing an affective therapeutic relationship built on trust and mutual understanding.

> 🗣 *Keep getting changed key workers as well. You cannae build that relationship if every–what–couple of month you're getting a brand new key worker. Sometimes that key worker doesn't even gi'e a shit, to be honest.*

4.5.2 Access to prescription benzodiazepine substitution therapy

Consultations with the clinical experts confirmed that prescriptions of diazepam for the purpose of assisting people with problem benzodiazepine use are rare. Several clinicians reported, albeit anecdotally, that the number of such off-licence prescriptions they had provided were on average between four and seven in a 12-month period. Furthermore, it was also confirmed that such prescriptions are not currently available for people who have an isolated problem with benzodiazepine use or those who have multiple substance use concerns but are only seeking help for their benzodiazepine use. Instead, only people seeking support for problem use of another substance, such as opioids or alcohol, with comorbid problem use of benzodiazepines are eligible for such treatment.

The cited reasons for this ranged from the lack of a conclusive evidence-based supporting the use of diazepam as an effective detoxification treatment, a lack of available resources, the risk of diversion to illicit market, an overly 'protocolised' referral pathway, and the difficulty in assessing the baseline pharmacological dependence for 'street' benzodiazepines. The prison environment was cited as an exception to this rule with a 12-day detoxification prescription available (in contrast to the usual 3-month community prescription) to those in whom benzodiazepines are detected on reception into custody. However, again anecdotally, the relapse rate for this 'prison detox' was considered to be high given the lack of concurrent psychosocial interventions and the unaddressed risk factors for addiction.

Amongst the EBEs, there was a universal demand for 'detox prescriptions' of diazepam. All of the participating EBEs thought a diazepam prescription would help them to achieve abstinence from all forms of benzodiazepines. However, most of the EBEs recounted histories of having been denied this type of support, in some cases despite explicitly asking for it. Much of the frustration was centred on two main

criticisms: the lack of an explanation as to why benzodiazepine assisted treatment was not an option for them, even in the context of a licensed indication such as anxiety, and the perceived injustice that medication assisted treatment was routinely prescribed for other substances of abuse such as opioids and alcohol.

> 🗣 *I don't think they've ever gave me a reason 'cause they just said it's something they don't do and if you go to your own GP they won't even entertain you about that they'll just divert you to the drug services.*

> 🗣 *Why's all this money getting pumped into opiate substitute treatment and alcohol and all that, and nothing's getting done about this? … We're behind, it's as simple as that.*

> 🗣 *Obviously, I go to the chemist every day for my methadone. So I was like "Why can't you just give me a–I don't know–a ten-mil tablet every day when I go for my [methadone]?" … They're willing to treat one drug but not another drug, when they're both causing just as much problems.*

> 🗣 *For etizolam, [substance misuse services] say we can't treat that drug of addiction but what's methadone? What's suboxone? You know–people are dying because they are having fits and knocking themselves out, ending up in Carstairs, Carseview.*

Several interviewees also put this into the context of access to residential rehabilitation services. Whilst it was acknowledged that this type of service was available through the third sector, this was usually with a policy of 'total abstinence', an approach which was deemed unrealistic for this population.

> 🗣 *I know it costs money and all that … but look at alcohol. They'll put you in there for a week, they'll give you vitamins, they'll feed you up, they'll give you diazepam, they'll take you back off it, and they'll put you out the door fresh.*

> 🗣 *The only you rehabs you've ever got the option of going to are total abstinence rehabs. … It's total abstinence from every drug. … You're not even allowed to have a cigarette, and if you're coming off of benzos I think the least you might need is a cigarette!*

Another interviewee also pointed out an apparent geographical inequality in service provision, describing how an acquaintance had recently moved to the NHS Fife catchment area, a neighbouring health board, and had been provided with a detoxification regimen of prescription benzodiazepines within two weeks of their first presentation.

Several EBEs detailed the explanations they had in fact been offered for the lack of medication assisted treatment. These included a lack of accurate information on the current doses of benzodiazepines being taken due to their illicit nature, whether indeed a benzodiazepine was being ingested at all, and the risk of overdose outweighing any potential for benefit. In the cases where explanations had been offered, these were deemed to be either inadequate or illogical by the EBEs.

> 🗣 *There's this argument about, "We cannae put them on Valium because how much do we gi'e them 'cause we don't know how much etizolam they're taking?" Right, but when someone goes on a methadone script, they don't know how much heroin I've just took. All they know is I've took heroin … and then they'll go, "There's thirty mil of methadone."*

> 🗣 *I know people need to keep safe and they need to watch overdoses and stuff like that but look at the population you're dealing with! These guys are taking fifty at a time!*

Only one of the EBEs reported having received a benzodiazepine prescription explicitly as part of a benzodiazepine detoxification programme. However, this was in a particularly unique set of circumstances

including a strong and vocal advocate, and support in the community able to offer close monitoring. It was acknowledged that this intensive support may be difficult to replicate due to the limitations of both the statutory services' and TSO's available resources. However, this arrangement, conducted in agreement with the GP, ultimately proved effective and perhaps provides an example scenario in which a benzodiazepine-assisted detoxification can be successfully conducted in the community.

4.5.3 Alternatives to prescription benzodiazepines

In the absence of benzodiazepine assisted treatment, it was apparent that many of the EBEs had subsequently turned to alternative forms of help such as self-medicating with other substances (e.g. alcohol), increasingly turning towards 'street' benzodiazepines, and even contemplating getting 'a two-week remand or a wee sentence in [HMP] Perth just to get a detox.' Others described how they felt they had been pressured to increase their methadone prescription doses in an apparent attempt to treat their benzodiazepine withdrawal symptoms.

> 🗣 *It was like, "Well, we can't give them the … diazepam now." So the answer was just to up, up, up the methadone. Every time they're struggling, put it up. Struggling some more, put it up again. It wasnae the answer! … My body was needing, was wanting and craving the benzo … and all that succeeded in doing was giving us a hundred-mils-a-day methadone habit.*

> 🗣 *Just like forcing more up, wanted my methadone upped, and they think that–that that could maybe help with the Valium as well. "So d'you want your methadone upped?" "No! I'm not wanting to go up on my methadone any more! It's an opiate–like–and I'm quite stable."*

Another prominent criticism pointed to the perceived illogical current practice of being encouraged to continue consuming 'street' benzodiazepines despite being warned of the inherent health risks. Some of the interviewees went further in their criticism, stating that the expectation that people living with problem drug use would be capable of managing their own carefully coordinated detoxification was highly unrealistic, a criticism that also applied to maintaining accurate drug diaries.

> 🗣 *They've seen the state of me. … They've seen I'm in withdrawals from them. … They'll say to you, "We agree [name redacted], you need off these things but we can't give you a diazepam detox on them. We advise you just … buy small amounts off the street … maybe take half the tablet."*

> 🗣 *How can you tell a drug addict to take ten tablets one day … and eight the next … on their own accord, when they've got an addictive personality? The first thing they're gonna do is go, "Oh I don't feel good. I've got them sitting there and yeah I'll take them." Whereas if you've got someone distributing them to you and you have to take them the way methadone is–y'know–given to you and you have to take them there and then.*

> 🗣 *Tapering off [yourself] doesnae work if you're living in the madness.*

The professional experts working in the third sector described how this was a particular concern of theirs. Given the lack of prescribed drug assistance, many of these experts were 'muddling through' with supporting their clients in this self-managed reduction in 'street' benzodiazepine use. Whilst there were numerous examples of considerable effort being made to ensure evidence-based harm reduction advice was being provided, through strategies such as harm reduction workbooks and provision of multi-compartment compliance aids (e.g. Dosette Boxes) for 'self-detoxing', some of the third sector workers

reported feeling exposed to unnecessary levels of risk given the lack of appropriate clinical oversight and the unpredictable nature of these drugs.

4.5.4 Cessation of benzodiazepine prescriptions

Several of the EBEs also pointed to the origins of their problem benzodiazepine use and apportioned blame to the statutory services, firstly due to the length of their prescriptions in the first instance and subsequently the abrupt cessation of these prescriptions. One interviewee went as far as saying 'these people made us junkies' whilst another believed that statutory services had 'created a market' for 'street' benzodiazepines.

> 🗣 *I didn't know that it was only ever meant as a short-term solution. … I was quite angry that … that wasn't flagged up by somebody in my GP's surgery. … The blame for that should've passed to them. … As much as it was my choice to take the medication, when you're prescribed something from a GP, you think that they're doing what's best for you … you're taking what you think they think you need.*

> 🗣 *Not long after I came out of hospital [for pneumonia and sepsis] then they said, "Right, we're takin' yer off your benzos." … They just said it's happening, this is happening all over the Tayside.*

However, this was not a universal opinion and one of the focus group attendees was ultimately grateful for the suggestion to taper off their prescription, stating that they would have been unlikely to suggest it themselves. Others appreciated the difficulty that clinicians may face in trying to find dose equivalence for a diazepam prescription, in the knowledge that the majority of 'street' benzodiazepines contain mostly etizolam.

> 🗣 *It would be hard to find out … what would be the equal to that.*

> 🗣 *They're stuck in a rock and hard place as well. How do you help someone on etizolam when it's not even prescribed?*

4.5.5 Access to mental health services

Further criticism from the EBEs was levelled at the lack of access to mental health services and the apparent paradox in which eligibility for mental health support is dependent on drug use stability which itself may be dependent on improved mental health.

> 🗣 *It's like, "Treat your drug problem first." But it's like, "Well, how can I treat the drug problem 'cause when I stop taking drugs all the abuse and trauma that I've been through comes back tenfold and then I need to find a way to block it out so I end up taking something else." … You still need to self-medicate because you've not dealt with the [mental health] issue.*

> 🗣 *They usually say, "We're not treating your drug addiction unless you've treated your mental health." Well how can I if my mental health is the reason I've got a drug addiction? But then when you have a drug addiction … you're not just dealing with the mental health issue, you're then dealing with withdrawals … you've got a double whammy.*

Others pointed to the long waiting times associated with psychiatric, psychological and counselling therapies even when they were considered eligible for such treatment.

> 🗣 *I was offered counselling at different times, but it was always through [the third sector]. It could be an eight-to-twelve week waiting time. In eight-to-twelve weeks' time you could be like, "Well what's the point?"*

> 🗣 *The doctor telling us I would get an appointment in six month, and I says to him, "Well, that's not helping me now if I'm not sleepin' and … when I got my eyes shut I'm seeing [flashbacks]"*

This was also reported as problem in the prison environment.

> 🗣 *They're there but it'll take you a long time to see them. You'd have to put in a slip to see the psychologist and they'd maybe come and see you next month.*

Several of the EBEs also felt that the underlying reasons for their problem drug use had not been adequately engaged investigated and that a more holistic understanding of their problems could have resulted in a reduction in harm and better long-term outcomes.

> 🗣 *A big part of it was probably addiction but I think if they'd have looked further into it they might have realised that there was underlying mental health issues here as well. That might have required something like lorazepam or diazepam or something to help me cope, not the methadone.*

> 🗣 *[I needed] somebody looking a bit more deeply into why I turned to drugs in the first place, like, maybe asking or, like, getting some kind of counselling service to find out why, why I started taking drugs … find out what the triggers were.*

The current coverage of mental health treatments and therapies for people who use benzodiazepines (and the wider problem drug use population) was widely acknowledged from all sectors of the consulted professional community as not currently meeting the need. The overwhelming view was that this is primarily due to current levels of staffing, finance and other resources being unable to match the present demand. Indeed, one clinician stressed that if statutory services were to begin offering treatment to people who only use benzodiazepines, then this represents an expansion of scope rather than a realignment of service provision and this must be met with an appropriate expansion of available resources.

In an apparent confirmation of the paradox described above, another cited factor was the necessity for potential psychological therapies clients to be 'stable and able' in regards to their present drug use i.e. they have a stable and predictable level of illicit (or otherwise) drug consumption and are able and willing to fully participate in the rigours and demands of often intensive therapy.

4.5.6 Stigma

Some of the most passionate remarks throughout all of the interviews were reserved for descriptions of the stigma experienced in both general clinical and specialist drug services. Many felt 'judged' whilst interacting with services and that clinical decisions were being made based on stereotypes rather than on a person-centred basis. One interviewee described how stigma had made the process of daily methadone dispensing 'soul-destroying'. Others described feeling infantilised when receiving 'stars' as part of a recovery programme or patronised when receiving the results of their toxicological screens.

> 🗣 *I found that for a while I was self-medicating because whenever you've had the slightest problem with drugs, could be the smallest problem with drug addiction, any GP you go see after that you just–you just get the feeling that they just think you're there for drugs*

> 🗣 *I was phoning up the doctors and beggin' for help, pleading for something to help, when I'm needin' some kind of help here! You ken everything I've been through. It shouldnae be a postcode lottery and I shouldnae be telled that I'm leadin' yous because I'm being up front. … That doesn't help me. … [I feel like] a fourth-class citizen.*

> 🗣 *I walk in the door [of the GP's consultation room] and she goes, "Nah, I cannae gi'e you anything." [Laughs] Fuckin'! I've not even said anything yet! [Laughs].*

Some of the EBEs described how this stigma had resulted in a change in their health-seeking behaviour. This included a future reluctance to engage with services due to the perceived likelihood of receiving discriminatory treatment or a need to exaggerate certain aspects of their presentation in an attempt to receive appropriate treatment. Two interviewees described specific situations in which they feel they had been inappropriately challenged because they had not been believed to be reporting their drug use truthfully, resulting in a breakdown of trust with their key workers and a sense of unease with how to progress with that particular relationship.

> 🗣 *I think the systems shot itself in the foot far too much, because now … people are coming out saying this and that, exaggerating … normal people shouldnae feel like they've got to fuckin' embellish … to get help. … It makes it harder for people.*

> 🗣 *They feel like they've made an effort before but they've not been believed and … you think–like–what is the point, and no matter how truthful you are, you feel like you're not being believed some of the time.*

4.6 What services or treatment strategies do people who use benzodiazepines want?

4.6.1 Benzodiazepine substitution therapy

The service or treatment strategy that was most commonly, and often most passionately, wanted by the EBEs was the option for a benzodiazepine substitution therapy, or a 'benzo detox', in the form of a tapering diazepam prescription. Several of the EBE's stated that this would be the single biggest factor in helping them to achieve recovery from their problem benzodiazepine use with others pointing to the lack of such a prescription being the underlying reason why they had developed 'the habit' in the first instance. Many of the EBE's used the language of 'choice' and 'options' and that 'people should be gave the chance'. Others spoke of scenarios in which prescription benzodiazepines might in fact be indicated on a more enduring basis in order to treat underlying anxiety and that this should no longer be denied to people simply on the basis of their current or past 'street' benzodiazepine use. Several of the interviewees also expressed a sense of urgency and their desire that such a prescription should be available rapidly on detection of benzodiazepine dependence or 'as soon as they present themselves saying, "I want to stop these."'

The desire to 'stop on my terms' was a common theme in relation to detoxification with some discussion on potential dispensing arrangements, the rate of dose tapering, and the point during recovery at which a prescription would be most beneficial. Although most of the EBEs who had experienced daily dispensing of methadone were not particularly fond of this arrangement, most would be willing to tolerate it if this was a requirement for a diazepam prescription. One focus group attendee remarked that, from their experience of tapering off a historical benzodiazepine prescription, that they would likely have misused the prescription had it not been closely controlled. Others described that the most convenient method of administration would be a long-lasting weekly or monthly depot injection, although it was acknowledged that this preparation of a benzodiazepine does not currently exist. Several of the EBEs had managed to 'self-detox' from 'street' benzodiazepines with various degrees of difficulty and most recognised that a

prescription for diazepam would have made this process easier. For some, they felt they would have gained most benefit at the very start of their detoxification and stopped taking other forms of benzodiazepines immediately, whilst others would prefer to taper their 'street' benzodiazepine consumption down to the lowest tolerable amount in order to use prescription diazepam at their point of most difficulty. Overall, the impression was that people who use benzodiazepines want choice in how a detoxification prescription was managed with a 'person-centred' approach.

Much of what was desired by the EBEs in terms of a benzodiazepine detoxification is already contained within the diazepam pathway for managing illicit benzodiazepine use in the Tayside Substance Use Services: Guidelines on Medical Treatments for Substance Use.[242] Similarly, the resources required to deliver this regimen are mostly already in place, given the infrastructure and dispensing arrangements would not be anticipated to be markedly different than that required for OST. However, as noted above, this option currently remains reserved only for those with co-morbid (i.e. not primary) benzodiazepine use and is, at least anecdotally, not a commonly utilised approach within the service. One clinician suggested that the approach would be similar to with OST, although the clients would need to be seen less urgently but more frequently, perhaps placing a substantial stress on a system that is already under significant pressure.

The overall professional opinion on the role of medication in assisting the treatment of problem benzodiazepine use was mixed, particularly amongst the clinical staff. All of the third sector professionals were generally supportive, likely a result of their current and relatively unsupported role in delivering harm reduction strategies on the 'front line'. Most of the clinical staff were sceptical of its role given their experience of the rates of relapse as well as having to own the risk of prescribing drugs of abuse potential to clients with a history of known problem drug use, especially given its additive adverse effects when consumed alongside opiates. It was pointed out by one clinician that many patients do manage to stop using benzodiazepines regularly without the need of prescription medications, although it was acknowledged that this may be in the context of non-dependent use. Another clinician proposed that benzodiazepines should be licensed for use in detoxification, an apparently logical step given this is in fact an accepted practice in certain circumstances, thus removing at least one of the barriers for clinicians to consider this as a treatment option and accepting the reality that community benzodiazepine detoxification treatment regimens are prescribed not infrequently.

A universal opinion, amongst the professional experts and EBEs alike, was that further research is warranted to ascertain whether or not benzodiazepine assisted treatment is an effective strategy for people who use benzodiazepines. One EBE suggested that a local pilot study or trial would not be short of volunteers in Tayside.

4.6.2 Psychosocial interventions

All except one of the EBEs felt that psychological or talking therapies would play (or have played) a critical part in their recovery from benzodiazepine use. However, the one interviewee who did not share this view did report receiving previous cognitive behavioural therapy and anger management counselling and that they found it 'very, very valuable'. For many, simply the process of talking through their concerns in a supportive and trauma-informed environment would be sufficient and this is already widely available in many of the recovery-oriented TSOs currently operating in Tayside. For others, there was a desire for a more intensive type of therapy that would help them to explore the origins of their problem benzodiazepine (and other substance) use as well as their underlying psychological and cognitive needs, something 'that would help me … process all this a bit better and not be so chaotic when I'm trying to explain it in my head.'

The requirement for this, like detoxification, to be person-centred and managed as a dialogue between the therapist and the client was also explicitly stated by several interviewees. Another consideration was the timing of such interventions.

> 🗣 *Before you even get to the detox side maybe. … Most people will turn to drugs for a reason. … Normally it's to do with some kind of underlying trauma that's happened, and if you could try and find that trauma as early on in the process as possible, then that might give [services/clinicians] a better idea of what type of a drug addiction you have to be dealing with here and what's the best ways to deal with it.*

There were different views about timing of psychosocial interventions, although most EBEs stated that this would be needed at least in parallel with a detoxification regimen if not before.

> 🗣 *You're needin' a chemical intake to help you calm down, but at the same time, you're also needin' to learn to understand why you're feeling like that, what these emotions are–like–because we've never ever been taught that in school. … We've been learnin' to run away from them.*

This view was echoed by many of the clinical and third sector professionals, who mostly agreed that psychosocial interventions would be an essential component of any detoxification programme. The professional experts highlighted several specific psychological needs amongst people who use benzodiazepines, namely engaging with and processing previous traumatic experiences, coping with and managing anxiety and regulating emotions, the latter two of which may be both a cause and an effect of problem benzodiazepine use. However, one clinician stated that, although psychosocial interventions present a good treatment option in those who are not physically or pharmacologically dependent, engagement in such therapies is anecdotally poor.

One clinician was eager that the cognitive and memory disorders associated with long-term benzodiazepine use were adequately appreciated, and assessed, and that specific cognitive rehabilitation strategies should be considered when such disorders are diagnosed.

4.6.3 Group therapies

The role of group therapies was widely acknowledged as having a beneficial role in the recovery from problem drug use, in all its guises. Overall, the EBEs were generally satisfied with breadth and variety, as well as the range of intensity, of the different recovery-oriented groups currently operating in Tayside, predominantly through TSOs. Many of the interviewees spoke of the sense of social inclusion and connection they gained from the lower intensity, informal groups that operated in community hubs and recovery cafes.

> 🗣 *It builds on your confidence as well because you're talking in front of people and opening up … and you hear their stories and you think, "Oh God, I was just thinking that," and I didn't want to say it 'cause I–I thought I sounded like a lunatic but they're actually saying it so I can't be that bad then! And I go out feeling that bit better that I've connected wi'somebody, and that I'm not alone like with these thoughts.*

There were however certain barriers to inclusion in such groups that were raised by a number of the EBEs. As alluded to above, recovery communities in the more rural localities within Tayside, particularly in Angus, are more dispersed and it may be more difficult to generate and maintain community group therapies in these areas when compared to Dundee. Some of the interviewees expressed their preference for groups

that were not always focussed on their drug use, and instead involved different activities, including physical exercise, to help build focus, concentration, structure and routine.

> 🗣 *I would probably [laughs], not saying definitely, but possibly go if it was different, rather than somebody going, "Well, have you used drugs this week [name redacted]?" … I know I've got a problem wi'it, I just don't wanna be speaking about it constantly.*

> 🗣 *Walking in to a recovery café is very daunting … everyone just turns round and looks at you. … So if you're actually going into somewhere to do–maybe pottery or stained glass or play a game of rounders … you've also got something to focus your mind on … rather than everybody staring at me.*

One interviewee pointed out that there is not currently a dedicated recovery group for people who use benzodiazepines, drawing attention to the existence of other dedicated groups such as Alcoholics Anonymous, Cocaine Anonymous and Narcotics Anonymous.

> 🗣 *You'll get Cocaine Anonymous, Alcoholics Anonymous–err–you'll get Narcotics Anonymous, but it's mostly dealing with opiates in there. That's why–that's why CA started, because obviously they're no identifying the same. … The addiction might be the same, you might do the same things, … but the drugs are different so they don't identify.*

Several clinical staff offered their reflections on group psychological and counselling therapies delivered through the statutory services. The view was that these were generally not well-liked amongst their clients and had poor attendance rates. This is likely related to the stigma that people who use benzodiazepines have experienced in the setting of statutory services, as expressed by the EBEs and described above. From the supply side, one clinician acknowledged that there were not currently enough psychologists to meet the demand for psychosocial interventions, identifying 'stable and able' clients with the capacity to benefit can be difficult, and that there is 'too much crisis work' resulting in the neglect of those further along in their recovery journey and at a stage where such interventions would be indicated.

4.6.4 Drug Testing

At the time of this assessment, the provision of a confidential and free drug testing service for use by members of the community in Tayside remained aspirational, although there are plans to explore the possibility of establishing such a service in Dundee as part of a national pilot.

However, opinions on the benefits of a drug testing service were mixed amongst both the professionals and the EBEs. Some of the EBEs were very enthusiastic and suggested that it would be a 'game-changer' when used as a harm reduction tool. The potential strategies reported by the EBEs included testing a sample of a new batch of 'street' benzodiazepines for general information just to 'see what comes back', ruling out potentially dangerous additives or adulterants 'that could possibly kill you', and checking the strength or potency of the drugs in order 'to be careful' i.e. reduce the amount consumed in any given period.

> 🗣 *I would take my diazepam in. One's that I bought from the street and the ones that I'd got off the internet. I would take both of them and see what the story was and ... if they were found–you know–with twenty percent rat poison–you know–that would put you off!*

Those who were in favour of such a service were clear that anonymity and confidentiality were of utmost importance if it was to be used as intended. The preferred location would be within an already trusted environment, most likely a TSO, and with a zero-consequence policy i.e. no impact on decision regarding current or future prescriptions and no criminal justice implications.

> *An environment where you trust the people, that you know that you're not gonna be stripped back or anything else, you're not gonna be judged.*

> *People like [third sector organisations] and that … you're scared to because of the Police and stuff. You're not wanting like in trouble or that–or at the same time you're coming into places like where there's always cameras.*

Those who were less enthusiastic pointed to the likely unintended consequences. These included the potential to encourage people to take more of their 'street' benzodiazepines if they were found to be 'safe', the potential for exploitation of the service by drug dealers looking for objective information on the contents of their supply, and the limited benefit for the poorest people who use benzodiazepines who are unlikely to relinquish even a small amount of their drugs for testing.

> *In theory it makes sense but in reality, if you've scraped together all your money just to buy them five tablets or whatever, you're not gonna give one up for it to be tested, not even one.*

However, the most common criticism from the EBEs was that a drug testing service would be largely ineffectual in reducing consumption of 'street' benzodiazepines and therefore the risk associated with them. Many of the EBEs stated that testing would be unlikely to deter them from taking 'street' benzodiazepines regardless of the results.

> *If you bought a hundred tablets and you take them to get them tested and they say "Aw no, they've got one milligram of benzo in them," are you gonna throw them away? You probably gonna keep them for a rainy day, and you'd end up taking them anyway.*

> *You'd have to be honest and say, "Well–but there is a little of bit of benzos in each of them." Then I probably would have still take them. … When you're addicted you'll do it. You'll take that hundred tablets if you think you get twenty milligrams of Valium out of them, 'cause it's the only way you're gonna get it!*

4.6.5 Residential rehabilitation

None of the EBEs believed there was currently an available residential treatment option for problem benzodiazepine use. Several of the clinicians confirmed this to be the case. However, at the time of consultation, one group of staff reported that there was a single person in Tayside scheduled for a residential period for a primary benzodiazepine problem in the near future although they did stress this was not a frequent occurrence. At present, most of the residential rehabilitation resources are aimed at those treatments that are deemed unfeasible to perform in the community, principally alcohol detoxification.

All of the EBEs and third sector professionals were of the opinion that a period of residential rehabilitation would be an effective strategy for people seeking to reduce or stop their use of benzodiazepines. There were various cited benefits of this approach including a period of isolation away from the context of high availability and normalised drug use, the sense of safety afforded through being observed by medical professionals, and the ability to have a tapered prescription diazepam regimen.

> *You need taking away from the situation and all of the triggers, all of the high-risk situations that you can get yourself into in order for you to see it clearly again.*

However, one of the EBEs disagreed with this approach, stating that they would prefer to conduct any pharmacological detoxification in the community as 'I'm coming back to this environment' anyway.

> 🗣 *It's alright feeling good in the hospital and having that wee bubble round about yer, but when you come out you gotta deal with life again, on life's terms, which isnae easy for the best of us.*

For some, the emphasis should be on holistic care and that the opportunity that a residential period provides could be capitalised upon to ensure this i.e. the pharmacological detoxification could coincide with a period of intensive psychological assessment and therapy.

> 🗣 *You get them into a detox and you maybe get somebody in there while it's not just about the detox. It's about finding out about the person, what it is they actually need when they do get out the door. Because there's people with mental health problems, wi' other addictions to other drugs, … they've not dealt with past trauma.*

Another aspect that both EBEs and professional experts alike were keen to stress was the need for pre- and post-residential care. In fact, some of the EBEs stated that the pharmacological detoxification, or the initial 'cutting down', could begin in the community, leaving the residential period to manage the most intensive support with the most challenging symptomatic period. Others spoke of ensuring that follow-up support after discharge from a hospital environment was available immediately. According to several of the professional experts, such 'post-rehab' support could include ongoing engagement with specialist drug treatment beyond successful cessation of benzodiazepine use, a further prolonged tapering prescription if necessary, continued access to psychological and cognitive therapies, community and group therapies including activity-based therapy to provide structure and routine, as well as other needs such as support into employment, 'something to wake up in the morning' for and to feel like 'I'm part of society again'.

> 🗣 *It's about maintenance when you stop. … I always bang on about it at meetings, it's about structure and routine. If you've got that … you're in with a chance … 'cause it's something I've never had before … that structure and routine kept me going to [successful recovery].*

The length of stay that was considered necessary for a successful benzodiazepine detoxification varied amongst both clinical experts and the EBEs. However, and within the context of limited resources, in both groups there were proponents of short (i.e. less than one week) admissions with a focus on achieving stabilisation and regularity of benzodiazepine use and, if coupled with community prescription benzodiazepine detoxification regimens, an objective assessment of physical or pharmacological dependence in order to set a baseline daily diazepam dose at which to start tapering.

4.6.6 Education for professionals

The last identified commonly occurring theme amongst the EBEs was a request for better education for all professionals working in the area of drug recovery and addictions on how to support and manage people who wish to reduce or stop using benzodiazepines.

> 🗣 *People just need to be taught more about them … as well as that GPs need to be taught more about them, basically the NHS as a whole. … Why are people are using them and why are people are going to the street for them? Why is the doctor not prescribing them? Why do they substitute–like–other drugs for them?*

Several EBEs suggested that peer workers could have a central role in providing this education in both specialist and more general healthcare settings, an approach that was suggested would have a positive impact on helping to the reduce stigma within such settings.

> 🗣 *I think peer workers should be in places like doctors and pharmacies … I think they need to ha'e a wee bit o' insight into it to get the job. Maybe through understanding, through personal understanding a lived relative or something like that.*

Others described a similar role for other types advocacy, such as the option to be supported by a key worker during clinical interactions.

> 🗣 *If I take a worker along to meet the doctors–y'know–you wanna see the look! They'll actually–they'll actually respond to us and no just say "Right, make an appointment for four weeks' time" … and you'll just fall through the cracks. … So they've got to treat you as a human being and not a third class citizen. … You get a complete different response.*

Regarding education, many of the clinical staff reported wanting to see much more work on benzodiazepines across different clinical settings. The desire is to increase awareness of the symptoms of both short- and long-term benzodiazepine use and the possibility of paradoxical reactions, how to identify benzodiazepine dependence and the withdrawal syndromes, the associated physical and social harms related to benzodiazepine use, as well as wider education on providing trauma-informed care and harm reduction strategies, even motivational-interviewing techniques, relapse prevention and emotional resilience training, in order to ensure consistency in approaches across all clinical and third sector settings.

4.6.7 Cooperation between statutory and the third sectors

One further theme emerged from predominantly the professional expert consultations: the need for better cooperation between statutory services and the third sector. Both of these groups of professionals wanted to see more connected and closer collaboration in order to support people who use benzodiazepines based on the relative strengths of each sector, 'each service has different levers that can be pulled'. Many cited the effect the COVID-19 pandemic had on close cooperation, with almost all NHS staff that were previously co-located with staff from the third sector withdrawing back into previous, siloed ways of working.

Many cited the success that had been seen from such a cross-sector approach in the effectiveness of the non-fatal overdose rapid response pathway that is currently operational across each of the three local authority areas within Tayside. This assertive outreach pathway brings together professionals from the Scottish Ambulance Service, Police, NHS, Criminal Justice, Social Work, and the third sector on a daily basis to identify instances of drug overdoses and provide an immediate and intensive intervention in order to prevent a further overdose or drug-related death by encouraging effective engagement with treatment and care services.[243 244] Others cited the successful cross-sectoral approach that had achieved 'micro-elimination' of hepatitis C in Tayside as a further example of collaborative best practice.

Two specific strategies were mentioned during the consultations as potential methods of improving cooperation. The first was to promote the return of NHS and third sector staff co-location where appropriate. Some suggestions for this included counselling or psychological therapies to be conducted occasionally at third sector locations, routine third sector support worker presence at statutory drug service clinics, embedding external staff in operational planning roles in the corresponding organisations, and a more inclusive approach to multi-disciplinary case meetings that better appreciates the role performed by the third sector in managing and supporting people who use benzodiazepines. (Note, an evaluation of the extent to which these suggestions are already in practice was not performed). The second suggestion was to formalise the line of communication between a named consultant psychiatrist and the third sector professionals who are operating at the 'front-line' and regularly (in some cases daily) supporting people who use benzodiazepines to 'self-detox' from 'street' benzodiazepines whilst prescription detoxification remains relatively inaccessible. There were reports that this is occurring on an informal basis and the

extent to which this line of communication is open is dependent on the individuals involved. A negotiated formal link would encourage the clinician to provide support to those who are providing low-intensity but high-frequency interventions on the 'front line' and a reciprocal flow of information on a client's progress in the opposite direction.

5. Comparative Assessment

5.1 Approach

The current options for the clinical management of benzodiazepine dependence in the United Kingdom, as described by Baldwin, are presented below in Table 5.1.[245] Although the options chosen by clinicians and patients will vary according to preference, opinion and various (often subjective) assessments, there is likely to be very little variation in the availability of these options between regions in the UK. Indeed, the consultations with clinicians in Tayside and neighbouring health boards did not reveal any significant deviation from the management options presented below. Therefore, a comparative assessment between Tayside and other similar populations (e.g. in neighbouring NHS Scotland territorial boards) is unlikely to yield any findings of substantial differences.

Therefore, the approach taken in this resource-constrained comparative assessment is a non-systematic review of the current global evidence base on the management options for people experiencing benzodiazepine dependence and withdrawal, with a focus on the psychosocial and pharmacological interventions. Firstly, the most recent evidence synthesis articles, i.e. systematic reviews and meta-analyses, are discussed followed by a targeted search for any updated literature or novel treatment options that have emerged since these review articles were published.

Table 5.1. Current clinical management options for benzodiazepine dependence

▪ **Prevention**	▪ Primary	▪ Avoid prescribing benzodiazepines ▪ Identify and treat underlying psychological illness ▪ Identify at-risk groups ▪ Engage patient concerns ▪ Restrict prescriptions to short-term use
	▪ Secondary	▪ Restrict automatic renewal of prescriptions ▪ Audit prescribing practices ▪ Implement prescription alert systems
	▪ Tertiary	▪ Implement treatment withdrawal protocols ▪ Support patients before, during and after withdrawal
▪ **Consolidation and dose reduction**	▪ Consolidate benzodiazepine polypharmacy to monotherapy e.g. diazepam ▪ Taper doses at mutually agreed rate and avoid prolonged tapers ▪ Avoid concurrent withdrawal from opioids ▪ Consider inpatient admission for very high dose users	
▪ **Psychosocial interventions**	▪ Psychoeducation techniques ▪ Motivational interviewing, instilling confidence and optimism ▪ Cognitive behavioural therapy to support withdrawal and maintain abstinence ▪ Psychological treatment of underling conditions	
▪ **Pharmacological interventions**	▪ Pharmacological treatment of underlying conditions ▪ Medication to facilitate alcohol abstinence if required ▪ Occasional use of short-term benzodiazepine treatment to facilitate withdrawal ▪ (Rarely) use flumazenil in specialist service settings	
▪ **Relapse prevention**	▪ Manage persistent insomnia ▪ Continue treatment of underlying conditions ▪ Support alcohol reduction ▪ Address risk factors e.g. interpersonal discord, employment, housing problems	

Adapted from Baldwin[245]

5.2 Key findings

- Overall, the evidence base for the full range of management options for people experiencing benzodiazepine dependence is sparse with most individual studies being of poor quality and underpowered.
- Furthermore, much of the literature has reported on outcomes in older long-term users of prescription benzodiazepines and is therefore of limited generalisability to the most at-risk population of people who use benzodiazepines in Tayside.
- The published literature exploring psychosocial interventions is generally supportive of such management options, with cognitive behavioural therapy alongside a gradual dose reduction assessed as more effective than a gradual dose reduction alone.
- The quality of evidence for pharmacological interventions, either as adjunctive or substitution therapy, is prohibitive of making any firm clinical recommendations despite many candidate agents having been studied.
- Gradual dose reduction, as widely acknowledged, is preferable to abrupt cessation of benzodiazepine use, whilst certain anti-epileptic medications may be beneficial in preventing seizures during such withdrawal strategies.
- Flumazenil, administered via slow subcutaneous infusion during dose tapering, is an emerging and promising intervention currently in use and under evaluation in an addictions unit in Italy as the 'Verona Detox Approach'.
- Benzodiazepine substitution therapy for people who use 'street' benzodiazepines has been the subject of few although promising studies and, therefore, the balance of risk is unlikely to shift in favour of this approach without more rigorous and larger scale research.

5.3 Recent evidence syntheses

A systematic review is a method of identifying, appraising and synthesising the available evidence to answer a specified research question, whilst a meta-analysis is a method of combining the results of individual studies to reach a single result or statistic. A Cochrane Review is a type of systematic review that selects only studies that meet certain quality criteria and also applies methods to reduce the risk of bias, therefore improving the reliability of the results.[246]

5.3.1 Psychosocial interventions

A Cochrane Review, including evidence current to December 2014, reviewed the evidence for psychosocial interventions for 'benzodiazepine harmful use, abuse or dependence'.[247] It assessed 25 studies involving 1666 people testing a range of different interventions including cognitive behavioural therapy (CBT) with and without gradual dose reduction (GDR), motivational interviewing (MI), advice from GPs or in letters to patients, relaxation studies, self-help booklets and online counselling. There was sufficient data to perform two meta-analyses: one that explored the effect of CBT alongside dose tapering compared to dose tapering alone in 11 studies, and another assessing MI against treatment as usual (TAU) in four studies. This analysis found moderate quality evidence that people receiving CBT plus GDR could be 40% more likely to have successfully discontinued benzodiazepines within four weeks of treatment and 51% more likely at three months compared to GDR alone. However, longer-term outcomes, at six months to two years post-treatment, were less certain. The evidence for MI versus TAU was less supportive of treatment, owing to the overall very low quality of evidence available. Of the other interventions assessed, a tailored GP letter versus a generic GP letter, a standardised interview versus TAU, and relaxation techniques versus TAU all demonstrated a reduction of benzodiazepine use at various time points at or under 12 months.

These findings were in general agreement with previous (non-Cochrane) systematic reviews and meta-analyses. Voshaar et al assessed nine studies involving psychosocial interventions which they categorised as either 'minimal intervention', e.g. simple advice or group meetings, or 'systematic discontinuation' which involved more intensive clinician-led programmes.[248] They concluded that both treatment strategies were more effective at achieving discontinuation of benzodiazepine use than TAU, and that group CBT for insomnia plus systematic discontinuation was more effective than systematic discontinuation alone. Parr et al analysed 16 studies with a psychosocial component, all based in either primary care or another outpatient setting.[249] Again, they found that both brief interventions such as a GP letter and psychological interventions such as relaxation or psychoeducation were more effective at achieving benzodiazepine discontinuation than routine care, and that psychological interventions plus GDR performed slightly better than GDR alone.[249] Similarly, Mugunthan et al assessed three primary care-based studies of minimal interventions, concluding that they were mores successful at achieving dose reduction or cessation than TAU.[250] Gould et al analysed four trials of different psychotherapy interventions plus supervised withdrawal of benzodiazepines in older people, again concluding that the combination of these approaches performed better than TAU, education or drug placebos, or psychotherapy alone.[251]

Three further meta-analyses have been performed since the Cochrane Review was published. Lynch et al evaluated eight studies of brief interventions, such as letters, short consultations, educational information, or a combination of such measures, targeting people with a history of long-term benzodiazepine use.[252] They found that, overall, recipients of such interventions were more than 2.5 times as likely to reduce or discontinue their use of benzodiazepines at either six or 12 months post-intervention compared to usual care. Takeshima et al analysed three studies of CBT, concluding that those who received CBT alongside GDR were nearly twice as likely to have discontinued use when compared to those who received GDR alone.[253] Soni et al concurred, finding that non-pharmacological interventions in addition to GDR were

more than twice as successful at 'deprescribing' benzodiazepines than GDR alone in both the short and longer term and more than three times as successful than routine care in the long term.[254]

There have been few recent individual studies that have added any meaningful contributions to this evidence base. The only exceptions are two studies that have added further limited support for the role of either focussed counselling or educational material alongside multi-disciplinary support to dose tapering.[255] [256] More experimental strategies, such as balneotherapy and electro-acupuncture, are reported but lack the depth of evidence or scale-up potential to be considered viable options at present.[257] [258]

5.3.2 Pharmacological interventions

Another Cochrane Review, including the evidence current to October 2017, examined the role of pharmacological interventions in facilitating discontinuation of chronic (two months or more) benzodiazepine use.[259] It included data from 35 trials from a total of 2295 participants and examined some 10 different pharmacological agents for a total of 18 different comparisons. Despite a number of indications that some drugs were associated with beneficial effects, all of the findings in this review were deemed to be based on low or very low quality evidence and are therefore not commented on individually here. This assessment of quality was based on the small number of participants involved in each comparison, differing results between the studies, poor study design, and in some cases the involvement of the pharmaceutical industry in funding the research. As a result, the review could not make any recommendations for clinical practice.

The same review from Voshaar et al discussed above also analysed the effectiveness of five separate pharmacological agents to augment the systematic discontinuation of benzodiazepine use, finding a significant effect for only imipramine, a tricyclic antidepressant, albeit with a very imprecise estimate of effect.[248] Similarly, the review by Parr et al considered the role of substitutive pharmacotherapies in addition to GDR versus GDR alone.[249] The authors also concluded that several drugs showed promise but that the strength of evidence was insufficient to make recommendations for clinical practice. Soni et al again concurred with the previous reviews, failing to find sufficient evidence to support either certain substitution pharmacotherapies or switching one benzodiazepine for another as a strategy to aid successful discontinuation of benzodiazepine use.[254]

There have been several further individual studies of potential pharmacological adjuncts to benzodiazepine discontinuation, including gabapentin, ramelteon and melatonin, as well as published case studies of other drugs, such as phenobarbital and ketamine, being used in the emergency management of severe acute benzodiazepine withdrawal.[260-265] However, none of which appear to be of sufficient scale, quality or effect size to substantially change the conclusions of the synthesised evidence discussed above.[266]

One candidate drug that that has attracted research attention as a potential therapeutic agent to support benzodiazepine withdrawal is flumazenil. Flumazenil is a benzodiazepine antagonist, or antidote, licensed for use in the UK as a reversal agent of the effects of benzodiazepine use in anaesthetic and intensive care settings and, rarely, may be used off-label in emergency situations of benzodiazepine overdose.[17] Its use in overdose is controversial given the risk of precipitating serious adverse events such as cardiac arrhythmias and seizures.[55] However, researchers in Australia and Italy have explored the role of a slow subcutaneous infusion of flumazenil in support of a tapering withdrawal from benzodiazepines, finding very low occurrences of adverse events and high tolerability amongst its recipients.[267-270] The team at the Unit of Addiction Medicine at the Integrated University Hospital of Verona recently published the details of their 7-day inpatient treatment protocol for high dose mono-users of benzodiazepines, the 'Verona Detox Approach', to encourage international partners to replicate the approach and report their findings.[271] Whilst the results of this approach appear promising, many unknowns remain, such as the long-term

abstinence success rates, its role in polydrug consumption, and its economic viability given the resource implications. The authors of this body of research acknowledge that more focussed research is required before it can be recommended as clinical practice whilst they continue to report their findings from their own pilot and proof of concept studies.[271-273]

5.3.3 Limitations of the synthesised evidence

Much of the evidence discussed above has explored intervention options for people on long-term prescription benzodiazepines who are considered candidates for discontinuation or 'deprescribing'. This is often older people (the average age of the participants in the Cochrane Review of pharmacological interventions was 50 years) who are mostly managed within a primary care setting. This evidence may therefore have limited generalisability to the population most likely to experience the most serious adverse outcomes in Tayside: younger adults who use of 'street' benzodiazepines, often in large quantities, and with comorbid use of other illicit substances.

Other limitations involve the small sample sizes involved in the trials, even when aggregated as meta-analyses (e.g. the positive finding for the effectiveness of CBT plus GDR was based on a total of just 575 participants), some trials were not specifically aiming to reduce or discontinue benzodiazepine use, a lack of longer-term follow-up beyond 12-24 months, and a relative paucity of data on adverse effects of the pharmacological interventions.

None of the studies included in these systematic reviews and meta-analyses have explored the role of the intervention most demanded by the experts-by-experience who were interviewed for this corporate assessment: benzodiazepine substitution therapy. A targeted search for the evidence for this approach is therefore warranted.

5.4 Benzodiazepine substitution therapy

There is little published literature on any alternatives to abstinence-based strategies of recovery for benzodiazepine dependence. All of the evidence discussed above has explored the common aim of achieving abstinence of benzodiazepine use, with the speed of reaching this outcome viewed as a desirable quality of any intervention. However, those with high-dose or polydrug dependence rarely achieve abstinence through such approaches. For example, people who use 10mg or more of diazepam (or the equivalent) or who drink more than two units of alcohol daily are likely to fail to achieve long-term abstinence.[274]

Whilst there is convincing evidence that agonist treatment, such as methadone and buprenorphine, is more effective than discontinuation approaches for opioid dependence, there is little equivalent research for high-dose benzodiazepine dependence, despite the recent rise in prominence of benzodiazepine-related harms.[275] What research has been published is generally supportive of a substitution approach. For example, Liebrenz et al's qualitative study of people with problem benzodiazepine use demonstrated that some patients viewed the use of slow-onset, long-acting benzodiazepines (such as diazepam) as having stabilised their symptoms as well as helping to avoid both uncontrolled withdrawal and criminal activity.[276] In a pilot study, five people on methadone with comorbid problem benzodiazepine use were given a maintenance dose of clobazam prior to and during dose reduction. Three were abstinent of any other benzodiazepines at three months.[277] In a similar study of 66 benzodiazepine-dependent and methadone-maintenance patients, participants were prescribed either a 'detoxified' or maintenance dose of clonazepam. Nine of 33 in the detoxification group were benzodiazepine-free after two months, whilst 26 of the 33 in the maintenance group had refrained from abusing additional benzodiazepines after two

months.[278] Another study demonstrated that a slowly reducing dose of diazepam in oral suspension (used to afford very small decrements in dose and therefore a very gradual taper) was able to achieve abstinence of benzodiazepine in all 20 participants without relapse at two years, although the study population was not representative of the Tayside population of people with problem benzodiazepine use (participants were long-term institutionalised patients in a health service nursing home in France).[279]

A benzodiazepine substitution approach is not without risk, a view that was held by many of the clinical professionals consulted as part of this needs assessment as well as their international colleagues.[280 281] Much of this risk centres on the inability to monitor concurrent usage of 'street' and prescribed benzodiazepines in an outpatient setting and the subsequent risk of overdose.[281] However, this risk is unlikely to be homogenous amongst the population of people who use benzodiazepines, as Brett argues in apparent agreement with the expressed needs of this assessment's interviewed experts-by-experience, 'the choice of approach depends on an assessment of the risk of harm and relapse. Low-risk patients can be managed in general practice and may benefit most from attempting withdrawal. High-risk patients are best managed with initial stabilisation and maintenance therapy in specialist residential or outpatient addiction services.'[282] Yet this assessment of risk is challenging for a number of reasons. These include an under-recognition of 'street' benzodiazepine use due to a lack of coverage of individual drugs in standard urine testing (although the majority in Tayside is etizolam for which a test is now widely available) and the high and unpredictable potencies, short half-lives and seemingly more addictive qualities of 'street' versus 'prescribable' benzodiazepines.[280]

Therefore, the challenge for the clinician is to decide whether prescribing benzodiazepine substitution therapy is more or less risky than the status quo of advising the harm reduction strategy of a supported but self-managed taper of illicitly purchased 'street' benzodiazepines. The MAT standards-informed benzodiazepine harm reduction interim guidance, published by the Scottish Drug Deaths Taskforce together with Public Health Scotland, encourages the prescriber and the person to identify, in collaboration, a 'zone of accepted risk' and warns that a decision not to offer an intervention should also be subject to a risk assessment as such decisions may perpetuate identified harm.[213] Whilst the evidence for such an approach remains scant, and the risk appetite of prescribing clinicians remains low, it is unlikely that the wishes of the people who use benzodiazepines will be met in this regard without a change in approach and mindset on behalf of the prescribers.

6. Conclusions

The epidemiological profile of people who use benzodiazepines in Tayside has highlighted the scale of unmet health needs amongst this population, exemplified by the number of drug-related deaths (DRDs) that the region witnesses. If every drug-related death is preventable, as the Scottish Drug Deaths Taskforce suggest, then every drug-related death represents a failure in meeting this population's needs.[283] Comparatively, this need is greatest in Dundee City, not only within Tayside, but across the whole of Scotland. Whilst progress has been made in the last two years with consecutively fewer DRDs, this progress must be maintained for Dundee to shed its unenviable title of the nation's 'drug deaths capital'.[284]

This project has shown that most of these deaths now involve the use of a benzodiazepine, most of which are 'street' benzodiazepines, and most of these involve etizolam. This is an emerging phenomenon; in just the last five years, deaths involving the most commonly implicated 'prescribable' benzodiazepine – diazepam – have fallen, whilst those involving etizolam have nearly trebled. Furthermore, this assessment has revealed that no more than 2% of all benzodiazepine-related deaths between 2018 and 2021 could be linked to the deceased's own prescription for benzodiazepines.

However, the findings of this assessment must be viewed in the context of polydrug consumption as it has also revealed that all of these benzodiazepine-related deaths involved at least one other class of drugs. To refer to people who use benzodiazepines as a distinct population, one that exists in isolation from other substance use populations, is artificial and potentially misleading. These 'populations' are, for the most part, the same people. An approach that seeks to address problem benzodiazepine use in isolation is therefore likely to end in disappointing results.

Nevertheless, the scale of problem benzodiazepine use in Tayside demands action. In order to allocate resources equitably, i.e. where the need is greatest, treatment and recovery strategies should be targeted at those people who predominantly use 'street' benzodiazepines, versus prescription or 'prescribable' forms. Accordingly, such people were at the heart of the corporate element of this assessment and therefore the expressed needs identified by this project represent the population with the greatest capacity to benefit.

Service planners should also remain cognisant of the demographics of those most in need. People who live in the most deprived neighbourhoods, are in early- to mid-adulthood, and who are male continue to shoulder the greatest burden of adverse benzodiazepine-related outcomes. Yet despite males accounting for over 70% of both benzodiazepine-related deaths and hospital stays, a greater proportion of males remain unknown to specialist drug services at the time of death or overdose. Whilst there are numerous possible explanations for this apparent inequity, it is clear that more must be done to reach this section of the population. The unique vulnerabilities of females, however, should not be ignored; recent reductions in male drug-related deaths have not been observed in females, although male deaths remain considerably in the majority. Whilst the total burden of benzodiazepine-related deaths was greater in males, benzodiazepines were more likely to be implicated in the drug-related death of a female. The need for a gendered approach to service provision for people who use benzodiazepines, as well as other substances, remains apparent.

The corporate assessment confirmed, qualitatively, that the use of 'street' benzodiazepines almost always takes place in the context of other substance use including heroin, methadone, alcohol, and crack cocaine. Indeed, there is often a clear association between benzodiazepine use and the use of other substances, whether this is to 'top-up' the reportedly poor-quality heroin, to 'come-down' from increasingly prevalent crack cocaine use, to protect against alcohol withdrawal seizures, or as a result of having being 'cut-off'

from a prior diazepam prescription. Avoidance of both physical and psychological withdrawal syndromes is another prominent factor driving the use of 'street' benzodiazepines.

The harms related to 'street' benzodiazepines are not limited to physical and mental health. Many of the experts-by-experience (EBEs) consulted for this assessment described severe and acute behavioural changes as a result of their 'street' benzodiazepine use. Reports of out-of-character violent acts, often accompanied by memory loss, some of which were serious enough to result in custodial sentences or the breakdown of important personal relationships, were alarmingly common, albeit in this small sample of interview participants. It is clear that the needs of people who use benzodiazepines extend much beyond a traditional view of health and that additional social and criminal justice needs must also be considered and accounted for in future service planning. The effects on families, children and other dependents remains a future research need.

Such adverse experiences have not been sufficient in deterring the continued use of 'street' benzodiazepines. Even the provision of objective evidence of the dangerous contents of these 'street' drugs, in the form of an anonymous community-based drug testing service, would not be an adequate deterrent. At present, the benefits of 'escaping reality' and avoiding withdrawal symptoms continue to outweigh the risks, to which the people who use benzodiazepines are not naïve.

It is unsurprising that the most commonly expressed need amongst the EBEs is for a safe, fast, and effective way to 'detox' from 'street' benzodiazepines. This manifests as a demand for prescription benzodiazepine substitution therapy, analogous to that which is afforded to people who use opioids i.e. opioid substitution therapy, of which many of the EBEs have personal experience. The status quo of receiving advice to avoid abrupt discontinuation of 'street' benzodiazepine use at the same time as being 'denied' access to substitution therapy is perceived, perhaps understandably, as contradictory and illogical. To self-manage a gradual dose reduction of illicit substances whilst 'living in the madness' of problem drug use is seen as wholly unrealistic. The need for a safe and effective management strategy is urgent. Many third sector organisations have responded to this need and are 'muddling through' various innovative and, where possible, evidence-based harm reduction strategies. There is a clearly expressed desire for more consistent and assertive support from statutory specialist services. Formalising this arrangement to provide more regular advice, with valuable information from 'the frontline' flowing in the opposite direction, may be mutually beneficial. A return to a degree of co-location of statutory and third sector workers, that existed in some services prior to the Covid-19 pandemic, would support cooperation and collaboration.

Whilst 'detox' tapering prescriptions of diazepam are available in Tayside, albeit rarely provided, they are reserved only for people who use benzodiazepines use alongside either opioids or alcohol. That a person with a primary or isolated benzodiazepine use problem cannot access the same treatment as people with comorbid benzodiazepine use is a seemingly obvious, and remediable, inequity. The explanations for this protocol that have been afforded to the EBEs have been deemed by them as inadequate. Reports of stigma and stereotyping in both general and specialist clinical service settings continue to negatively influence their perceived compassion, credibility and trustworthiness amongst people who use benzodiazepines.

At present, the evidence base for a benzodiazepine substitution treatment strategy, or indeed for any pharmacological intervention for benzodiazepine dependence, lacks the required scale and research quality on which to base firm clinical recommendations. It is, however, important to recognise that this is not the same as evidence against such a strategy. In other words, absence of evidence does not equate to evidence of the absence. Clinicians and third sector professionals alike should be mindful of communicating this accurately.

Another expressed need is for improved access to mental health services including counselling and psychological therapies. Many of the EBEs described underlying histories of trauma that they considered as key determinants of their past or present use of benzodiazepines. Indeed, most people succumbing to benzodiazepine-related deaths in Tayside have a psychiatric comorbidity. However, the EBEs also described how their psychological needs are often viewed as secondary to their 'pharmacological needs', or neglected entirely, pointing to an apparent over-medicalisation of health needs in some instances. People of both professional and lived experience backgrounds agreed on the need for better coverage and integration of mental health and specialist drug services and that psychosocial interventions should begin at the earliest opportunity and run concurrent to any dose tapering or substitution therapies. However, at present there exists an apparent paradox in gaining access to psychological services: eligibility for treatment is predicated on being 'stable and able', but the EBEs considered this criterion to be the very outcome of the treatment itself. A less protocolised, and more person-centred, approach to accessing such services is the expressed need.

A closely related need is for group therapies, not only in the context of formal psychosocial interventions, but also informal, activity-based and peer-supported recovery groups. This need is at present largely being met by the extensive network of third sector organisations, recovery cafes and community hubs that operate across Tayside. However, the lack of a benzodiazepine-specific recovery group in Tayside was highlighted as a missed opportunity, as well as representing a further inequity given the availability of numerous other substance-specific groups. There was also an indication that the coverage of such recovery-oriented services displayed a geographical inequality, with more rural populations, such as that across Angus, struggling to form a meaningful and supportive recovery community due to a relative geographical dispersal. This comparative need will require both originality and adequate resourcing to be met.

There is also a demand for residential rehabilitation with an aim of achieving both pharmacological and psychological stability. The need for pre- and post-rehabilitation support in the community is acknowledged and inherent in this demand. However, inpatient services in Tayside are almost entirely reserved for opioid and alcohol-based treatments. Again, as with access to benzodiazepine substitution treatment, this is perceived as an illogical injustice. Yet there is very little available literature examining the effectiveness of this approach, especially in the context of 'street' benzodiazepine dependence. Although neither generalisable nor by any means an example of optimal care, the so-called 'prison detox' is anecdotally largely unsuccessful.

In fact, almost all of published literature on treatment approaches for benzodiazepine dependence and withdrawal is not generalisable to the most at-risk members of the Tayside population. Much of the evidence is based on people who have been in receipt of long-term prescription benzodiazepines who are typically slightly older, commonly female, and are undertaking a tapering regimen managed by their general practitioner rather than in specialist drug services. There is, therefore, a pressing need for more high-quality research involving participants who are representative of the people who use benzodiazepines in Tayside.

One emerging treatment approach from overseas that meets the expressed needs for both substitution treatment and residential rehabilitation, involves a slow subcutaneous infusion of flumazenil (a benzodiazepine antagonist) over a 7-day inpatient admission, the 'Verona Detox Approach'. Whilst the initial results appear promising, it is a resource-intensive option and currently remains experimental and requires further research. The high rates of problem benzodiazepine use in Tayside may present an opportunity, through international collaboration, for local researchers and clinicians to be at the leading edge of creating the evidence base for treatment options.

One final need, identified by all contributors to this project, is for better education, awareness and understanding of the needs of people who use benzodiazepines. This extends to all staff working in the field of drug recovery, regardless of profession or seniority. The current focus of recovery-oriented services on opioids and alcohol, with a relative neglect of the role of benzodiazepine use, is no longer supported by the epidemiological evidence. Indeed, current service provision appears to be designed for a pattern of drug use that is now several years out-of-date. A change in mindset, even in organisational culture, may be required in order to appreciate and respond to the now distinctly polydrug nature of substance use in Tayside.

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