



Why are drug-related deaths among women increasing in Scotland?



HEALTH AND SOCIAL CARE

**Why are drug-related deaths among women increasing in Scotland?
A scoping of possible explanations**

Emily Tweed, with Rebekah Miller and Catriona Matheson

2018

Contents

Executive summary	4
List of acronyms	6
1. Background	7
1.1 Introduction.....	7
1.2 Aim	8
1.3 Methods.....	9
1.4 A note on terminology	10
2. Overview of gender, drug use, and drug-related harms	12
2.1 Prevalence, motivations, and antecedents of drug use	12
2.2 Physical and mental health	14
2.3 Engagement with treatment services	15
2.4 Life circumstances and family relationships	17
2.5 Rates of drug-related death and risk factors	19
3. Evaluation of potential explanations	21
3.1 Introduction.....	21
3.2 Changes in definition or recording practices for drug-related deaths.....	21
3.3 A hypothesised increase in mortality among women of this age in the general population	22
3.4 Changes in the number of women who use drugs	22
3.5 Ageing among women who use drugs	24
3.6 Changing patterns of drug use among women	29
3.7 Changes in relationships and parenting roles	36
3.8 Experience of adversity, trauma, and violence	39
3.9 Co-occurring physical and mental health conditions.....	40
3.10 Access to and engagement with treatment and harm reduction services	43
3.11 Experiences of prison and liberation	47
3.12 Economic and social trends, including austerity and welfare reform	48
3.13 Summary of explanations.....	50
3.14 Limitations	52
4. Emerging implications	53
4.1 Introduction	53
4.2 Implications for policy and practice	54
4.3 Implications for future analysis and research	57
Acknowledgements	59
References	60

Appendix 1. Literature search strategy.....	64
Appendix 2. Stakeholder summary.....	65
Appendix 3: Example topic guide for interview.....	66
Appendix 4. Additional tables and figures	68

Executive summary

Drug-related deaths have increased significantly in Scotland in recent years. Although men still account for the majority of cases, over the last 10 years the percentage increase in deaths among women has been much greater than among men.

This report draws on routine data, published research, conversations with professional stakeholders, and interviews with women with lived experience of problem drug use to examine potential explanations for this phenomenon, and to identify priority areas for future work.

The evidence reviewed as part of this project indicates that the observed trend is likely to reflect multiple, interacting causes.

Most data sources indicate that the number of women in Scotland with problem drug use is declining, suggesting the increase in deaths is unlikely to be due to an increase in the size of the population at risk. However, some concerns were raised about a potential group of people at risk who may be less likely to be identified through existing routine data sources and by clinical services, particularly older women using prescription drugs: this possibility may merit further investigation.

The same data sources indicate that the average age of people who use drugs in Scotland is increasing, and there is some evidence that this trend might be more marked among women than men. Some studies have found that the increase in drug-related death risk associated with increasing age may be more pronounced among women than among men, which may contribute to the rising rates of deaths observed.

However, ageing effects are unlikely to fully explain the observed trends, since drug-related death rates among women have increased or remained stable *within* all age groups over the last fifteen years. Furthermore, age should be understood not as an explanation in itself but as a proxy for multiple factors which may affect drug-related death risk, such as physical co-morbidities, social isolation, multiple compulsory child removals, and polypharmacy.

With regard to the patterns of substance used, the increase in heroin availability in recent years following a shortage may have played a role in the trend observed, though there have also been increases in the number of deaths associated with methadone, benzodiazepines, gabapentinoids, codeine, dihydrocodeine, and anti-depressants. Polysubstance use is more commonly implicated in women's deaths, and appears to account for a growing proportion of deaths over time. Stakeholders identified this as a particular concern in the context of an ageing population with increasing prevalence of co-morbidities and perhaps loss of physiological reserve. It is however unclear from these data whether gender differences in this regard reflect differences in patterns of polysubstance use or vulnerability to their effects.

There is some evidence from routine data that the prevalence of physical and mental health problems has increased in recent years to a greater extent among women who use drugs than their male counterparts, which may contribute to an increasing risk of drug-related death.

Published reports and stakeholder input suggest that women who use drugs are likely to be particularly affected by the adverse impacts of welfare reform and public sector austerity measures. These changes may interact with other risk factors such as abusive or coercive relationships, commercial sex work, experiences of trauma, mental health issues, and changes in drug treatment services.

Stakeholders also highlighted recent changes to drug treatment services in Scotland, as well as in the wider health and social care landscape, which may have particularly affected women. Cuts in funding were felt to have resulted in the withdrawal of services, reduced provision, reductions in staffing levels and skill-mix, lack of continuity in relationships, and changes in ethos. Women were also felt by some informants to be more vulnerable to some of the potential adverse impacts of recovery-oriented systems of care.

Some informants highlighted the potential role of poor drug treatment practices and insufficient throughcare support for women in the criminal justice system: this is an area which may warrant further investigation.

Based on the stakeholder conversations and literature overview, a number of potential responses are identified for policy and practice, as well as priorities for further research and analysis. Such responses should recognise the commonalities between men and women who use drugs as well as the differences; the diversity of experiences within each gender; and the intersections between gender and other axes of inequality, such as deprivation. Many of the areas identified offer the potential for cross-sectoral collaboration and policy synergy – for instance, with mental health, social security, justice, community cohesion, housing and homelessness, and the equalities agenda more broadly.

List of acronyms

DRD: drug-related death

ICD-10: International Statistical Classification of Diseases and Related Health Problems, 10th Revision

ISD: Information Services Division, NHS National Services Scotland

NESI: Needle Exchange Surveillance Initiative

NRS: National Records of Scotland

ONS: Office for National Statistics

OPDP: Older People with Drug Problems project

OST: Opioid Substitution Therapy

SDMD: Scottish Drugs Misuse Database

1. Background

1.1 Introduction

In Scotland, drug-related deaths are reported on an annual basis by National Records of Scotland (NRS), using a definition introduced in 2001 (known as the NRS implementation of the 'baseline' definition for the UK Drugs Strategy). This definition includes deaths attributed to the following causes (with ICD-10 codes given in brackets):

- deaths where the underlying cause of death has been coded to the following sub-categories of 'mental and behavioural disorders due to psychoactive substance use':
 - opioids (F11);
 - cannabinoids (F12);
 - sedatives or hypnotics (F13);
 - cocaine (F14);
 - other stimulants, including caffeine (F15);
 - hallucinogens (F16); and
 - multiple drug use and use of other psychoactive substances (F19).

- deaths coded to the following categories and where a drug listed under the Misuse of Drugs Act (1971) was known to be present in the body at the time of death (even if the pathologist did not consider the drug to have had any direct contribution to the death):
 - accidental poisoning (X40 – X44);
 - intentional self-poisoning by drugs, medicaments and biological substances (X60 – X64);
 - assault by drugs, medicaments and biological substances (X85); and
 - event of undetermined intent, poisoning (Y10 – Y14).

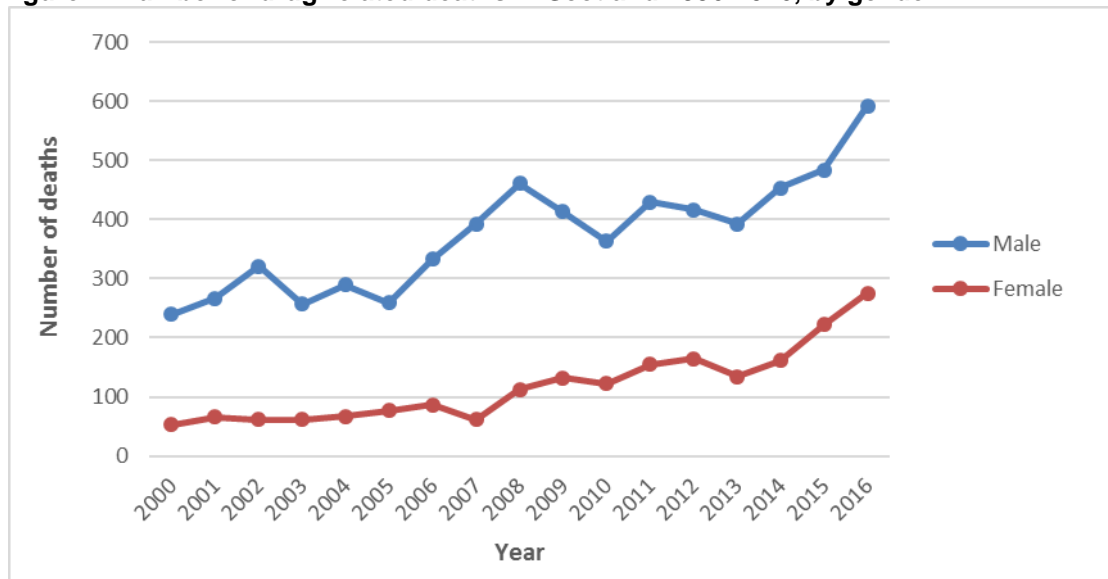
Additional information on the definition of drug-related deaths can be found in Annex A of the most recent NRS report (National Records of Scotland, 2017a).

Drug-related deaths have been increasing in Scotland in recent years (National Records of Scotland, 2017a). 2016 saw the highest number of deaths ever recorded, at 867 – a 106% increase on the figure from 2006. Although men still account for the majority of these deaths, the proportion of women has increased over time, from 19% in 2002-2006 to 29% in 2012-2016. When comparing the annual average for 2012-2016 with that for 2002-2006, the percentage increase in the number of DRDs was greater for women (169%) than for men (60%). The increase in deaths among women over the

last decade has also been more consistent, with less year-on-year variability than among men despite smaller numbers. Figure 1 shows the overall trend in number of deaths by gender.

A similar trend has also been observed over the same period in England and Wales, though appears to be somewhat less marked¹. Between 2002-2006 and 2012-2016, the average annual number of drug misuse deaths among women increased by 64%, compared to 28% for men (Office for National Statistics, 2017).

Figure 1. Number of drug-related deaths in Scotland 1996-2016, by gender.



Source: National Records for Scotland

1.2 Aim

In response to these figures, a rapid scoping project was undertaken to examine potential explanations for the rising rate of DRDs among women in Scotland in recent years and to identify implications for policy.

This paper summarises the findings of that project. It starts by describing the methods used and providing a general overview of gender and drug-related harms, before considering a range of possible explanations in turn. It concludes with a summary of potential implications for policy, practice, and research.

¹ The Office for National Statistics definition of drug misuse deaths used here is the one closest to the National Records for Scotland definition of drug-related deaths, but there are some differences in data collection that may affect comparability. These are described further in Annex G of the latest NRS report (National Records for Scotland, 2016). It is therefore difficult to ascertain the extent to which differences in the trend are due to artefactual explanations (i.e. differences in the recording of drug-related deaths across the UK) rather than genuine differences in rates of drug use and the associated risk of harm.

1.3 Methods

This project consisted of four strands:

- **Review of relevant routine data sources**, as described below. All data not routinely published but obtained through bespoke requests were provided in aggregate form for the purposes of confidentiality.
 - Drug-related death registrations, National Records for Scotland
 - National Drug-Related Deaths Database, Information Services Division Scotland (ISD) – in particular, the report published in 2016 covering deaths between 2009-2014 which included a specific section on gender²
 - Scottish Drugs Misuse Database (SDMD), Information Services Division Scotland (ISD)
 - Drug-Related Hospital Stays data, Information Services Division Scotland (ISD)
 - Needle Exchange Surveillance Initiative (NESI), Health Protection Scotland/University of West of Scotland/Glasgow Caledonian University
- **An overview of relevant literature**, based on a search for existing systematic reviews undertaken by Scottish Government library services (details of which are included in appendix 1), ‘snowballing’ of reference lists to identify relevant articles and reports, and follow-up of specific sources mentioned by key informants. Both peer-reviewed and grey literature was considered for inclusion, though priority was given to studies undertaken in the UK, Europe and other high-income countries. No date restrictions were imposed. Findings from the literature were coded using a thematic matrix reflecting existing and emerging explanations. Due to time constraints, a comprehensive literature search or quality assessment of individual papers could not be undertaken, so the overview of the literature reported here is not equivalent to a formal review. Very few relevant systematic reviews were identified, so there was greater reliance on non-systematic reviews and snowballing. These limitations should be borne in mind when interpreting the results.
- **Engagement with key stakeholders from statutory services, the third sector, and academia** through fifteen interviews with 16 participants; two focus groups; and one observed meeting of an existing community of practice. These were identified through existing networks such as the Partnership for Action on Drugs in Scotland Harm Reduction Group and

² An updated report, describing deaths up to and including 2016, will be published in 2018, and will again include a detailed analysis by gender.

local Alcohol and Drug Partnerships, as well as professional contacts of the author and policy colleagues. Potential participants were invited to participate by email and provided with an information sheet at the point of invitation; verbal informed consent to participate was obtained prior to embarking upon the interview. A summary of informant roles and an example topic guide is provided in appendices 2 and 3. Interviews (either in person or by telephone) and focus groups were undertaken by an experienced qualitative researcher, with notes transcribed immediately after the event. Emerging themes were identified by collaborative review of notes between the authors, using the thematic matrix described above. The matrix was iterated to reflect additional themes as they emerged. As these interviews and focus groups were recorded through written notes rather than audio tape, no direct quotations are included in this report.

- **Analysis of the transcripts of 28 semi-structured interviews with women over 35 years of age who use drugs**, initially undertaken as part of the Older People with Drug Problems (OPDP) project (Matheson et al., 2017). This secondary data analysis approach was chosen to avoid imposing additional research burden on potential participants, particularly given the sensitivity of the topics at hand. Participants in the OPDP were recruited through a range of non-NHS settings across Scotland (such as needle exchanges, counselling, voluntary organisations, and homelessness services), using a quota sampling approach based on the age and gender profile of the Scottish drug using population. Interviews were undertaken by trained peer researchers, all of whom happened to be women: signed consent was obtained from each participant. For this project, transcripts of interviews with 28 of the 30 women in the sample were selected and coded by an experienced qualitative researcher using the thematic matrix described above, using directed content analysis. Again, the matrix was iterated to reflect additional themes as they emerged. Quotations from these transcripts are included throughout the report to illustrate key themes, alongside the (non-consecutively numbered) interviewee code. All names of people, services, and locations have been anonymised.

1.4 A note on terminology

The terminology of sex and gender have subtly different meanings: sex (females/males) refers to biological characteristics, whereas gender (women/men) refers to self-perception and socially constructed role.

However, these terms are often treated as interchangeable, and are rarely used consistently. Because of this lack of consistency, and the multiple sources on which we draw, in this report we have defaulted to using gender and women/men (though we continue to use female/male as adjectives). This decision reflects a necessary pragmatism, rather than an explicit theoretical or empirical orientation.

2. Overview of gender, drug use, and drug-related harms

This section aims to provide a brief overview of the literature retrieved as regards gender and drug use, informed where appropriate with stakeholder input. It is intended to provide a general background to the topic, prior to the consideration of specific explanations for the trend in drug-related deaths among women in the next section.

2.1 Prevalence, motivations, and antecedents of drug use

Data from population surveys consistently find that the lifetime prevalence of drug use is lower among women than men, particularly for intensive and regular use (European Monitoring Centre for Drugs and Drug Addiction, 2017a, Scottish Public Health Observatory, 2017a). This is supported by data from general health care settings and specialist drug treatment services. In Scotland, the estimated prevalence of problem drug use in adults aged 15-64 years in 2012/13 was 2.5% among men and 1.0% among women, such that men accounted for 70% of individuals with problem drug use in Scotland (Information Services Division Scotland, 2014).

There is some evidence that women tend to start using substances at older ages than men (International Narcotics Control Board, 2017, Evans et al., 2015, Scottish Drugs Forum, 2014), and that they are more likely to have partners or family members who use substances (European Monitoring Centre for Drugs and Drug Addiction, 2017a, Clark, 2015, Neale, 2004). Women's patterns of drug use are often influenced by those of their partner (International Narcotics Control Board, 2017, Neale, 2004, Shand et al., 2011).

There is some evidence to suggest that women are more likely to engage in non-medical use of prescription drugs, though this is not conclusive and may relate to their greater exposure to prescription medications with potential for misuse (International Narcotics Control Board, 2017, Clark, 2015, Tuchman, 2010). One review cited evidence from Ireland that women are more likely to be prescribed medications with the potential for misuse for "non-clinical symptoms", like stress, grief, and major life changes, and for longer periods (Clark, 2015).

Clark et al reported evidence of gender differences in the motivations for substance use, with women more likely than men to cite the alleviation of physical or emotional pain, social reasons, or having a drug-using partner and men more likely to cite reasons related to pleasure- and novelty-seeking (Clark, 2015). Among women interviewed as part of the OPDP project, several made reference to the role of trauma in precipitating or sustaining drug use, which was often seen as a form of escape. Several participants also described the use of drugs – and in particular diazepam (Valium) – to self-medicate for

mental health problems such as anxiety and low mood. These themes are illustrated in the quotations below.

“I think women do it to block out what’s happened in their life, like, abusive relationships, losing their weans [children], whatever, but men do it more because they want to do it I think and a lot of men don’t do it because, a lot has happened to men and all but there’s a different stage in everybody’s life, they’re taking it for a different reason I don’t know, the way to explain but I know why I do it. To shut much of life out, but men are, I don’t know, men should, I don’t know, I can, maybe I’m being selfish and saying men, they should be stronger but. I think men just take it more for the fun, women do it to, because they’re hurting from something.”

(Interviewee 128)

Interviewer: So what do you do to try and manage your moods, what helps your moods?

Participant: Do you know what helps, that keeps me on the level, when I take a Valium, that helps me, I just keep straight.

I: So do you find when you take Valium, that your mood’s more even, it’s no so up and down?

P: Aye even, I would say it’s more even, aye, it is, because I’ve been taking Valium from when I was about 18, because I got prescribed them, but when I moved through here, the doctors took me off all my medication, but I still like bought them off the streets, to keep my, to keep me level.

(Interviewee 303)

However, other researchers have argued that motivations are diverse across both genders and that categorisations such as this fail to capture the complexity of women – and men’s – experiences of substance use and misuse (Campbell and Herzberg, 2017).

Previous experience of physical or sexual violence or abuse, childhood neglect, or parental substance use is relatively common among people who use drugs of both genders, though is somewhat higher among women, especially for sexual abuse (Neale, 2004, Pelissier and Jones, 2005, Neale et al., 2014, European Monitoring Centre for Drugs and Drug Addiction, 2006). Ongoing experiences of intimate partner violence among women in drug treatment are also common (Shand et al., 2011, Neale et al., 2014, Tuchman, 2010). Women who use drugs may also have trauma resulting from

experiences of sex work (Neale et al., 2014). Both historical and ongoing trauma can sustain or exacerbate drug use, or precipitate relapse (Tuchman, 2010, Shand et al., 2011, Neale, 2004). Traumatic experiences, whether pre-dating or occurring during periods of drug use, were common among the women participating in the OPDP project: several described a direct link between their drug use and these experiences, as illustrated by the quotations below.

“Anxiety, anxiety, because my partners in the past have battered me, and I’ve got metal plates in my jaws, and just had bad experiences with guys, so.”

(Interviewee 308)

“See what’s happened from I was, from I was a young age, I sort of like, take drugs to block all that out, but it doesn’t work, it blocks it out for one day and then when you wake up the next day, it’s still there, so you’re going to have to repeat, and repeat, and repeat myself every single day, trying to block this out.”

(Interviewee 303)

There is some evidence that, compared to men, women tend to show a shorter period between initial drug use and subsequent dependence and more severe consequences: a phenomenon known as telescoping (International Narcotics Control Board, 2017, Tuchman, 2010, Simpson and McNulty, 2008). However, it was unclear from this overview of the literature whether this reflects biological or social factors, or both.

Many reviews refer to evidence that women’s response to drugs and recovery is influenced by hormones, menstruation, fertility, pregnancy, breastfeeding, and the menopause (e.g. International Narcotics Control Board, 2017) – however, the studies cited almost exclusively relate to cocaine, and it is unclear whether these findings are meaningful at population level. One review did make reference to the similarity between menopausal symptoms and those of opioid withdrawal, suggesting that women with a history of drug use may find that the menopause is a trigger for relapse, but this link appears to be largely speculative (Tuchman, 2010).

2.2 Physical and mental health

Several sources reported that women who use drugs are somewhat more likely than male peers to have concurrent mental health problems and substance use disorder, though it was unclear from these reports to what extent this reflects higher diagnosed rates of common mental health problems (like depression and anxiety) in women in the general population rather than a phenomenon specific to women who use drugs, or gender differences in help-seeking (International Narcotics Control Board, 2017, Tuchman, 2010,

Greenfield et al., 2010, European Monitoring Centre for Drugs and Drug Addiction, 2006). There is some evidence from the UK and US that women who use drugs are more likely to have concurrent physical health problems than men (Wincup, 2016, Evans et al., 2015).

2.3 Engagement with treatment services

The evidence appears to be mixed about whether women are more or less likely to access treatment, though pregnancy and parenthood do often appear to motivate or necessitate help-seeking (European Monitoring Centre for Drugs and Drug Addiction, 2017a). One finding frequently cited in this regard is that women seeking treatment for substance use tend to be younger than men, despite having a similar or later age of onset (European Monitoring Centre for Drugs and Drug Addiction, 2006, Gjersing and Bretteville-Jensen, 2014). Some sources suggest that women may be more likely to seek help from services other than dedicated drug treatment services, such as primary care or mental health (Clark, 2015, European Monitoring Centre for Drugs and Drug Addiction, 2006). Several articles cited evidence that women who do enter treatment have similar or better outcomes to men (Clark, 2015, Evans et al., 2015, Bawor et al., 2015) though published evidence on this point from European settings appears to be limited (European Monitoring Centre for Drugs and Drug Addiction, 2006).

From the literature and our interviews with professional stakeholders and women with lived experience, a number of potential barriers to women accessing or sustaining treatment for drug use or other health problems were identified. These are described below, with some accompanying quotations from the OPDP project interviews.

- Stigma, guilt, and shame. These may be exacerbated by societal gender roles and expectations, as experiences of stigma associated with drug use appear to be greater among women than men (European Monitoring Centre for Drugs and Drug Addiction, 2017a, Clark, 2015, Tuchman, 2010, Wincup, 2016, Ashley et al., 2003). Stigma may be both ‘felt’ (subjectively perceived) and ‘enacted’ (overtly manifest), and sources may include family, friends, staff in services, or wider communities.
- Mental health difficulties (Scottish Drugs Forum, 2014, Bernstein et al., 2015). For instance, among a sample of 54 women with drug problems in North Ayrshire who took part in a peer-led research project, 56% said that their mental health had prevented them from fully benefiting from substance use treatment by affecting their ability to attend appointments or to participate in group work.
- Fear of losing custody of children (Wincup, 2016, European Monitoring Centre for Drugs and Drug Addiction, 2017a, Scottish Drugs Forum, 2014). This may affect women’s willingness to engage with services and their ability to be honest with service providers about their drug use.
- Caring responsibilities. This includes both limited flexibility and accessibility of treatment services for those with caring responsibilities, and difficulties

with the availability and affordability of childcare (Wincup, 2016, Clark, 2015, Taplin and Mattick, 2015, Tuchman, 2010). In the study in North Ayrshire cited above, 27% of women interviewed said childcare issues had prevented them accessing treatment (Scottish Drugs Forum, 2014).

- Availability and affordability of transport to treatment sites (Tuchman, 2010).
- Unwanted advances or sexual harassment in treatment settings by other service users (Tuchman, 2010).
- Lack of social support (Tuchman, 2010).
- Being in a relationship with someone who does not wish to seek treatment, or who discourages the woman from doing so (Tuchman, 2010, Scottish Drugs Forum, 2014).
- Experiences of trauma and abuse, which may cause difficulties for forming therapeutic relationships and engaging with services or which may be exacerbated by the process of counselling or recovery (Scottish Drugs Forum, 2014, Tuchman, 2010).
- Concerns about confidentiality, which may be linked to stigma or child protection issues (Tuchman, 2010, Scottish Drugs Forum, 2014).

“I feel, I get pretty paranoid at times, my sister is bi-polar, it runs, so is my cousins and my aunties. My mum’s been wanting me to go to the doctor for a while, but na, you see and I was worried what that would, because I had to sign an agreement wi’ the social work, so if I go to my doctor they get to see everything.”

(Interviewee 508)

“Because I’m no getting any sleep, so it’s making me moody and it’s making me exhausted, moody, eh, [puff out of air], it’s starting to make my depression worse, because I’m nae getting nae blooming help because o’ the stigma, probably the doctors just looked at me and knowing I was an ex-addict, just looked and when ach, ken [know] what I mean, just gie [give] her that.”

(Interviewee 106)

“Aye but as I say [name] I was coming out [of counselling] and using, I thought I’d dealt wi’ stuff, fae [from] years back, she was taking me right back to when I was in care, when I was a young lassie and talking about all that and I mean it was all in my heid [head] when I was coming out o’ the office. My heid was bursting and I was like oh, straight to a dealer, coming back, using. And I telt [told] her, I was honest wi’ her, I said to her I don’t know if this is right for me the now. I says, I’ve, it’s bringing up stuff I didn’t think we were going to be speaking about and, I’m just, I’ve no been able, I don’t know to deal wi’ it and cope wi’ it, the noo. I’m no good at dealing wi’ my emotions, I’ve never, I’ve been runnin’ away fae I was a wee lassie. That’s one o’ the main things I need to learn how to do, is feelings and emotions like anybody else. I just cannae deal wi’ it, do you know what I mean, I was to just shut down and, you know.”
(Interviewee 126)

Many of the issues described above may pose challenges for women in their efforts to achieve recovery, though many of these are common also to men (Neale et al., 2014). Conversely, women who use drugs often have a number of assets which can contribute to their ‘recovery capital’, including more practical and emotional support from family members, a more stable housing situation, and greater ease in establishing new social relationships unrelated to drug use compared to men who use drugs (Neale, 2004).

2.4 Life circumstances and family relationships

Several studies have found that women who use drugs are more likely to have stable accommodation than their male peers, though this is not a universal finding in the literature and may fail to capture hidden forms of homelessness or living situations contingent on an abusive relationship (Neale, 2004, Wincup, 2016). Some reviews found that women who use drugs are less likely to be employed and tend to have a lower household income than their male peers (Pelissier and Jones, 2005, European Monitoring Centre for Drugs and Drug Addiction, 2006, Evans et al., 2015), though research in the UK has found that women often fare slightly better than men in this respect due to material support from family and greater access to resources like social housing (Neale et al., 2014). Women who use drugs are less likely than men to depend on criminal activity for their income and to have been arrested or imprisoned (Neale et al., 2014, Bird et al., 2003, Shand et al., 2011, Bawor et al., 2015).

A number of studies, including several in Scotland, have found that women who use drugs are more likely to be parents and to have childcare responsibilities than men who use drugs (European Monitoring Centre for Drugs and Drug Addiction, 2006, Neale et al., 2014, Simpson and McNulty, 2008, Bird et al., 2003). The challenges of this unequal responsibility were highlighted by one woman in the OPDP project, as per the quotation below. Conversely, children were also felt to be a positive influence, providing company, a routine, and a motivation for recovery.

“Some of them help to bring the weans [children] up, some don’t, some don’t care, do you know what I mean, so that’s a bigger issue for us. If you’ve got that, trying to look after weans, also, trying to address their drug problem, going into a chemist every day, do you know what I mean.”

(Interviewee 131)

“Get up, take the dog for a walk, go to the chemist, come back, get the bairn’s stuff ready that she needs, cos she canna cook, she canna iron, she canna do nothing, at 17 years old, so she says anyway”

(Interviewee 511)

One potential source of trauma among women who use drugs is the loss of child custody due to child protection concerns (Broadhurst and Mason, 2013, Kenny et al., 2015). Some authors have hypothesised that the emotional impact of child removal is exacerbated by its profound stigma, in ‘disenfranchised grief’ that cannot be acknowledged or shared with others (Broadhurst and Mason, 2013). There is emerging research evidence to support front-line reports that child removal often results in worsening mental health, social functioning, and substance use among mothers (e.g. Kenny et al., 2015, Wall-Wieler et al., 2017). These themes were supported by interviews with participants in the OPDP project and with professional stakeholders. Several women described regret and guilt at the effect of their drug use on their children, and the impact of (actual or threatened) child removals on their mental health and drug use. Loss of child custody appeared to be a time of considerable vulnerability: one woman explicitly linked this event to a relapse and another to plans for an intentional overdose.

“Aye, sorry, I think it’s just one of them weeks, I used to sit for days and shut myself away for days, before I had the youngest two, but oh god that just gives [father of child] ammunition to take the bairns [children] off me, and oh god, I don’t want to lose the bairns again, so I was if I could just make it to the end of the day, and get to my bed, tomorrow will be a new day, but at times like now, I just think tomorrow is never coming, sorry.”

(Interviewee 213)

“Well my last time I was clean I got, I came down, got reduced and I came off it, and it wasna until I got my children taken away from me last year that I went back.”

(Interviewee 508)

"I mean I think I would have stopped with the methadone if there hadn't been so many up and downs with the children getting taken off me and such, and there's been so much, and then, I went through. My kids got taken off me, beatings from the ex, so, Women's Aid people were involved, come up to talk to me, things like that. So there had been a lot of things that, not made me take drugs but, I chose to take them to help. But then it doesn't help. It doesn't seem to force away the things from your head."

(Interviewee 402)

2.5 Rates of drug-related death and risk factors

With regard to drug-related death, cohort studies of people who use drugs (including studies undertaken in Scotland) consistently find a higher crude or absolute risk of death for men compared to women (European Monitoring Centre for Drugs and Drug Addiction, 2017a, Merrall et al., 2012). However, relative rates of drug-related death (such as standardised mortality rates) tend to be higher for women, reflecting lower female mortality in the general population (Gjersing and Bretteville-Jensen, 2014, Aldridge et al., 2017).

The reasons for higher rates of drug-related death among men are uncertain. Some of the difference may be explained by different exposure to behavioural and contextual risks: for instance, among opioid users, men are more likely to inject and to experience episodes of imprisonment, both significant risk factors for drug-related death (European Monitoring Centre for Drugs and Drug Addiction, 2006, Bird et al., 2003, Shand et al., 2011). However, one recent cohort study of people accessing structured treatment for opioid dependence in England found that the risk of fatal drug-related poisoning remained about 30% lower in women than men even after adjusting for age, injecting status, and other substance use (Pierce et al., 2016).

There is also some evidence that the impact of known risk factors and protective factors varies by gender. For instance, periods spent out of treatment are a known risk factor for DRD, but this association appears to be weaker among women than it is among men, such that women are less at risk of DRD during out-of-treatment episodes than men (Pierce et al., 2016). Increasing age is also an important risk factor for DRD, but this effect appears to be especially pronounced among women. For instance, studies in Scotland, England and Wales, and Finland have found that the gender gap in risk of drug-related death narrows significantly with increasing age (Pierce et al., 2016, Pierce et al., 2015, Onyeka et al., 2014, King et al., 2013). The explanation for this phenomenon is not clear. In one recent analysis of opioid dependent people in England & Wales, it was still observed after adjusting for self-reported risk behaviour, injecting, and problem use of alcohol or

benzodiazepines (Pierce et al., 2015). It has been speculated that it may represent a selection effect: since women tend to cease drug use at a younger age than men, ongoing use at older ages among women may be a marker for more severe dependence or more challenging life circumstances.

A number of previous studies have found that the substances implicated in drug-related deaths in Scotland can differ by gender. Drug-related deaths among women are more likely to involve methadone, and less likely to involve heroin alone, than among men (McAuley and Best, 2012, Information Services Division Scotland, 2016a, National Records of Scotland, 2017a). Among a cohort of people receiving prescribed methadone in Scotland between 2009 and 2013, women and men had similar rates of deaths in which both heroin and methadone were found (heroin/methadone-associated), and methadone but not heroin or buprenorphine was found (methadone-specific) (Gao et al., 2016). The risk of methadone-specific death among the cohort was almost twice that of heroin/methadone-associated death, and was particularly pronounced among those aged 35 years or more, though there was no significant interaction in risk between age and gender.

Potential explanations for this steeper age-related effect for methadone-specific death might include age-related increases in the risk of cardiac complications of methadone (due to comorbidities or co-prescribing), or a greater severity or chronicity of opioid dependence among older methadone users. One of the risk factors for cardiac complications of methadone treatment - QTc prolongation - is more common among women, which has been hypothesised as a reason why rates of methadone-specific death among women and men are similar, in contrast with most other types of drug-related death (Gao et al., 2016).

With regard to drugs other than heroin or methadone, deaths among women are more likely to involve dihydrocodeine or codeine, or antidepressants, than deaths among men, which are more likely to involve ecstasy-type drugs, cocaine, or amphetamines (National Records of Scotland, 2017a). The proportion of deaths involving benzodiazepines is generally similar between men and women (National Records of Scotland, 2017a).

3. Evaluation of potential explanations

3.1 Introduction

This section attempts to go beyond the relatively static description of gender differences in drug use, risks, and harms in the preceding section to identify factors which might explain the *trend* in drug-related deaths among women. This is a much more challenging prospect, for a number of reasons: up-to-date evidence on relevant factors in recent years is limited; what is available does not lend itself to formal hypothesis testing; and in reality the causes of this phenomenon are likely to be multiple and interacting.

This section therefore uses the synthesis of material from all three strands to give a narrative summary of the evidence examined, rather than definitive conclusions.

It starts with artefactual explanations, then examines individual, community and relationship factors, and finishes by examining wider social and economic trends and policy context. It is therefore not organised in order of importance or relevance.

The potential explanations examined are:

- Changes in the definition or recording practices for drug-related deaths
- A hypothesised increase in mortality among women in the general population
- Changes in the number of women who use drugs
- Ageing among women who use drugs
- Co-occurring physical and mental health conditions
- Changing patterns of drug use among women
- Changes in relationships and parenting roles
- Experience of adversity, trauma, and violence
- Access to and engagement with treatment and harm reduction services
- Experiences of prison and liberation
- Economic and social trends, including austerity and welfare reform

3.2 Changes in definition or recording practices for drug-related deaths

Analysis of National Records of Scotland (NRS) data undertaken for this project show that the trend in drug-related deaths among women is not substantially affected by changes in the classification of drugs since 2000, including the classification of tramadol and novel psychoactive substances such as mephedrone (see additional table 1 in Appendix 4).

NRS describe a number of factors which may affect comparisons of drug-related death rates between different years and different areas, including

technical advances resulting in more sensitive laboratory tests, changes in testing practice, or pathologist decision-making when identifying substances as implicated in, or potentially contributing to, the cause of death (National Records of Scotland, 2017a). However, these were reported by the forensic toxicologist interviewed to be highly unlikely to differ by gender.

This artefactual explanation is therefore unlikely to explain the trends observed.

3.3 A hypothesised increase in mortality among women of this age in the general population

One query raised in relation to the trend observed is whether it merely reflects background changes in mortality risk or overall health status among women of this age group in the general population.

A review of crude and age-standardised mortality rates for women in the general population of Scotland between 2001 and 2016, supplemented by discussions with the NRS statistician responsible for drug-related deaths data, found that mortality rates in the relevant age bands are generally static or declining (National Records of Scotland, 2017b). Where this was not the case (slight increase in crude mortality among women aged 35-50 years since 2014), it is difficult to separate out the contribution of drug-related causes, which make a substantial contribution to the relatively low numbers of deaths in these strata of the population. In comparison, male all-cause mortality rates in several 'middle-age' strata appeared to show more significant increases in recent years.

The general population incidence of, and mortality from, cardiorespiratory conditions which might plausibly interact with drug use to cause the observed trends have also remained static or declined among women in the relevant age groups over the last fifteen years (Information Services Division Scotland, 2017b, Scottish Public Health Observatory, 2017b).

Together these data suggest that changes in background mortality risk or overall health status in the general population are unlikely to explain the trend observed.

3.4 Changes in the number of women who use drugs

Increasing numbers of deaths among women who use drugs might reflect an increase in the number of women who use drugs, the risk of death experienced by that population, or a combination of the two.

Understanding the scale of problem drug use – particularly over time – is challenging. The most recent estimates of the prevalence of problem drug use in Scotland are from 2012/13 and did not report on trends in prevalence separately by gender (Information Services Division Scotland, 2014). Although new estimates of the prevalence of problem drug use in Scotland are currently being prepared, and will include detailed gender breakdowns, the limitations of the data sources (such as lack of linkable identifiers and potential sources of

bias) and lack of continuous data mean that trend data for DRD rates per 1,000 people with problem drug use cannot be calculated.

In the meantime, the most robust indications of the size and gender composition of the population at risk of drug-related death come from population surveys and data from treatment services. Each has strengths and limitations but in combination they may give an indication of the overall trend.

The Scottish Crime and Justice Survey has found that the prevalence of self-reported drug use in the past year among women in the general population has fallen in recent years, from 4.3% in 2008/09 to 3.4% in 2014/15: prevalence also declined among men, albeit from a higher baseline (Scottish Government, 2016). The NESI survey of injecting equipment provision clients has found an ageing population with increasing average time since onset of injecting among both genders, consistent with declining recruitment into injecting drug use (Health Protection Scotland, 2017b). The gender profile of the NESI sample has been similar across each two-year sweep (Health Protection Scotland, 2017b).

The number of women undergoing initial assessment for specialist drug treatment in Scotland has remained largely stable over the past decade, reflecting little change in both the overall number and gender profile of people attending for initial assessment³ (Information Services Division Scotland, 2017d). During the last five years, the gender profile of clients attending for initial assessment has been similar to that of cases of drug-related death, at around 29% women. Prior to this, women accounted for a slightly higher proportion of those attending for initial treatment than those dying from drug-related deaths (30% vs 22%) (Information Services Division Scotland, 2017d, National Records of Scotland, 2017a).

Similarly, drug-related hospital stays – which will include some people with problem drug use not accessing specialist drug treatment – have shown little change by gender until around 2013/14, when there was a rise in the rate of new patients, an increasing proportion of whom were men (Information Services Division Scotland, 2017a).

Together these data suggest that the increase in drug-related deaths among women in recent years is less likely to be driven by an increase in the number of women using drugs.

However, given the limitations of population surveys and treatment service data, they do not completely exclude the possibility of ‘hidden’ populations of people who use drugs (particularly prescribed drugs) which may be growing in number and/or experiencing increased risk of death.

³ ‘Initial assessments’ in the Scottish Drugs Misuse Database (SDMD) refer to episodes of individuals first making contact with services providing tier 3 and 4 interventions (i.e. structured community or residential drug treatment) or reinitiating contact following a gap of at least six months since last attendance. Services contributing to the SDMD include specialist drug services and some medical services.

For instance, several stakeholders highlighted the dependence on data gathered in treatment services and the limitations of this for understanding the population of people at risk of drug-related death. This may be particularly true for women, who were felt by stakeholders to be less likely to engage with services and less able to honestly self-report drug use when they did engage⁴.

In addition, the data linkage component of the recent Older People with Drug Problems in Scotland (OPDP) project identified a group of people who were using benzodiazepines problematically, but who were not using opioids: women aged 35 or over were more prevalent among this group than among the entire cohort used for the project. A very high percentage of the older women identified in this group did not have any specialist drug treatment or drug-related hospital activity during the study period. Secondly, the National Drug-Related Deaths Database found that the proportion of female decedents who were known to use drugs⁵ has declined in recent years, from 90% in 2009 to 80% in 2014 (Information Services Division Scotland, 2016a). In contrast, among men this proportion has remained largely stable, with 89% of decedents in 2009 and 87% of decedents in 2014 known to have used drugs. In keeping with this, a small number of informants raised concerns about local examples of drug-related deaths associated with prescription drugs (such as opioid painkillers and benzodiazepines) among older women not fitting the typical profile of people considered to be at risk.

However, against this, other stakeholders had not observed any such trend, and the vast majority of deaths continue to involve illicit opioids. This possibility may therefore warrant further investigation, perhaps as part of a broader project looking at prescription drug use and/or polysubstance use.

3.5 Ageing among women who use drugs

Age is a known risk factor for DRD (McAuley and Millar, 2017). Ageing among the population of women who use drugs might therefore contribute to an increase in drug-related deaths, particularly if this is occurring to a greater extent among women than men.

As described above, estimates of the prevalence of problem drug use among women in Scotland by age group have not been published previously, partly due to the small numbers involved (Information Services Division Scotland, 2014). Other sources can however give a partial indication of the age profile of those affected and those at risk.

Among clients undergoing initial assessment for specialist drug treatment, a definite ageing effect was observed between 2006/2007 and 2015/16 among

⁴ NESI – a survey based within needle exchanges – was identified as an exception to this, and a particularly valuable source of information.

⁵ In the National Drug-Related Deaths Database collated by ISD, whether or not a case is defined as being 'known to use drugs' is based on information from primary care, secondary health care, social work, police, or prison records, as collated by the local drug-related death co-ordinator.

both genders. For instance, one simple metric is the proportion of such clients aged ≥ 35 years. In all years this was greater among men than women, but this proportion grew more steeply over this period among women than among men (Figure 2). Similar results are observed in data from the NESI survey of people attending injecting equipment provision outlets in Scotland between 2008-09 and 2015-16, which includes people not in contact with treatment services (see Appendix 4, additional table 2).

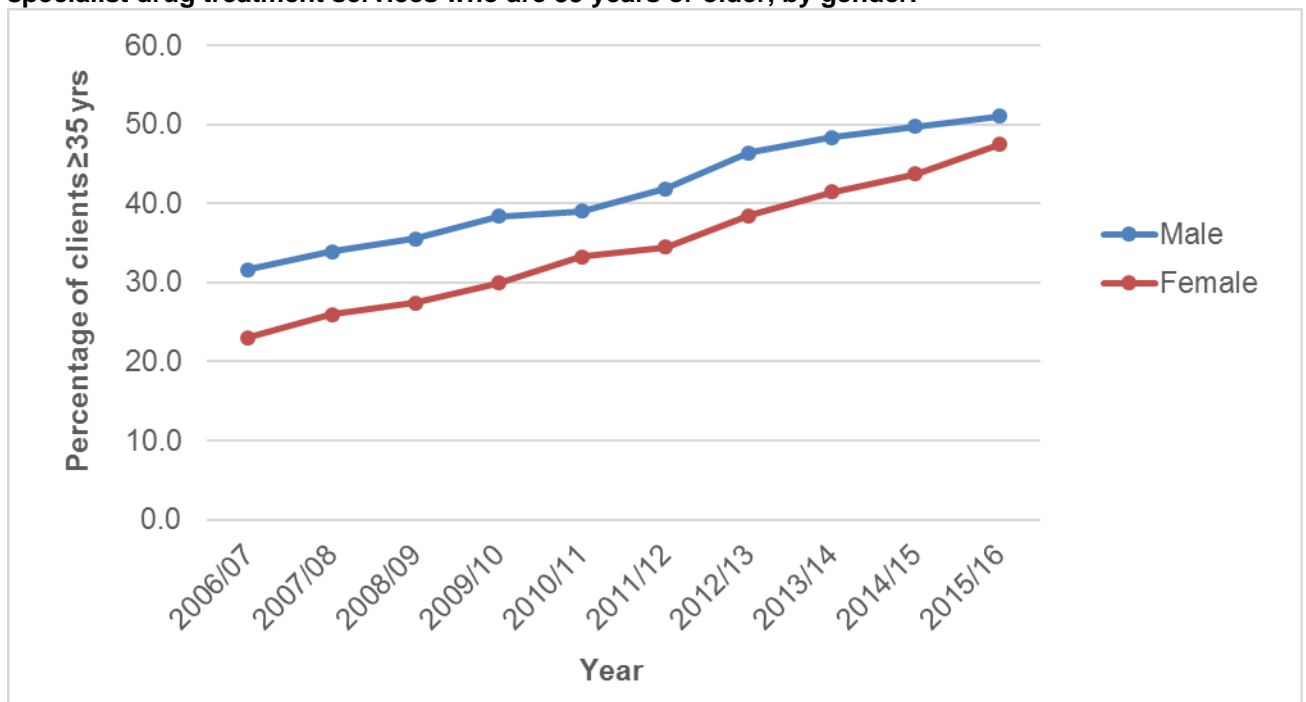
Though this analysis is fairly crude, it is corroborated by analysis from the OPDP project. This found that the gender gap in prevalence of problem drug use was narrower at older ages and that the overall population of older people with problem drug use in Scotland is likely to reach its peak number later among women than among men – partly due to higher rates of treatment success and survival (based on all-cause mortality) among the former.

There is therefore good evidence that the average age of women who use drugs in Scotland is increasing, and some indications that this trend might be more marked among women than men.

This may be particularly relevant given that, as described above in section 2.5, there is some evidence to suggest that the effect of ageing on DRD risk may be more pronounced among women than among men.

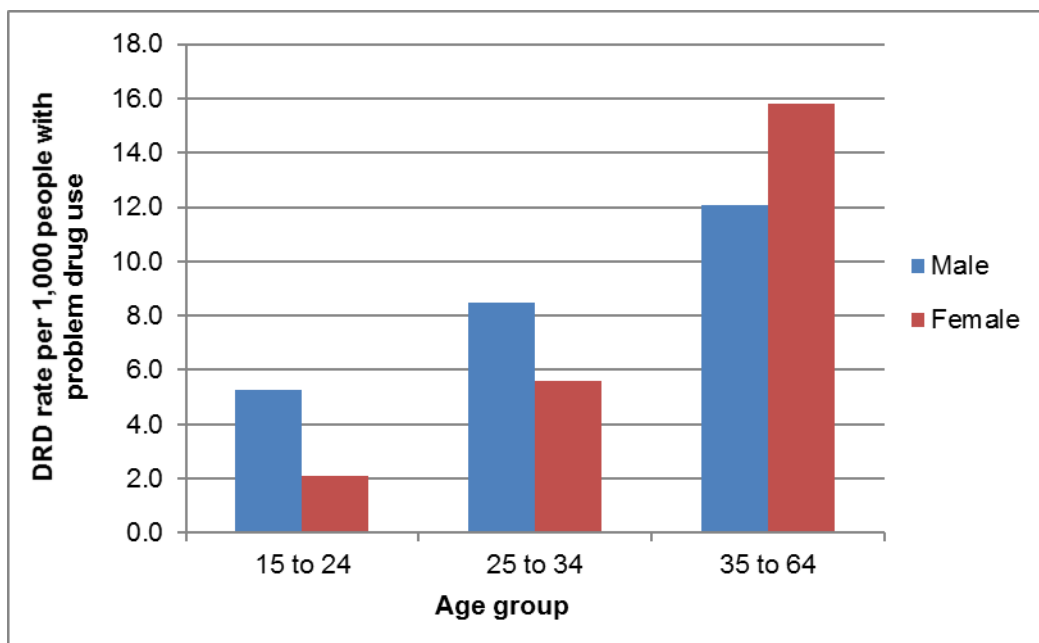
In keeping with this, NRS estimates of DRD rates per 1,000 problem drug users for the period 2011-2015 are substantially higher among men than women for those aged 15-34, but the reverse is true for those aged over 35. This is illustrated in Figure 3. It is important to note here NRS's own caveat that these rates are broad indications only, as the estimated numbers of people with problem drug use may be subject to wide confidence intervals.

Figure 2. Trend over time in the proportion of clients undergoing initial assessment in specialist drug treatment services who are 35 years or older, by gender.



Source: Scottish Drugs Misuse Database, ISD Scotland.

Figure 3. Annual average drug-related death rate (2011-2015) per 1,000 people with problem drug use, by age group and gender

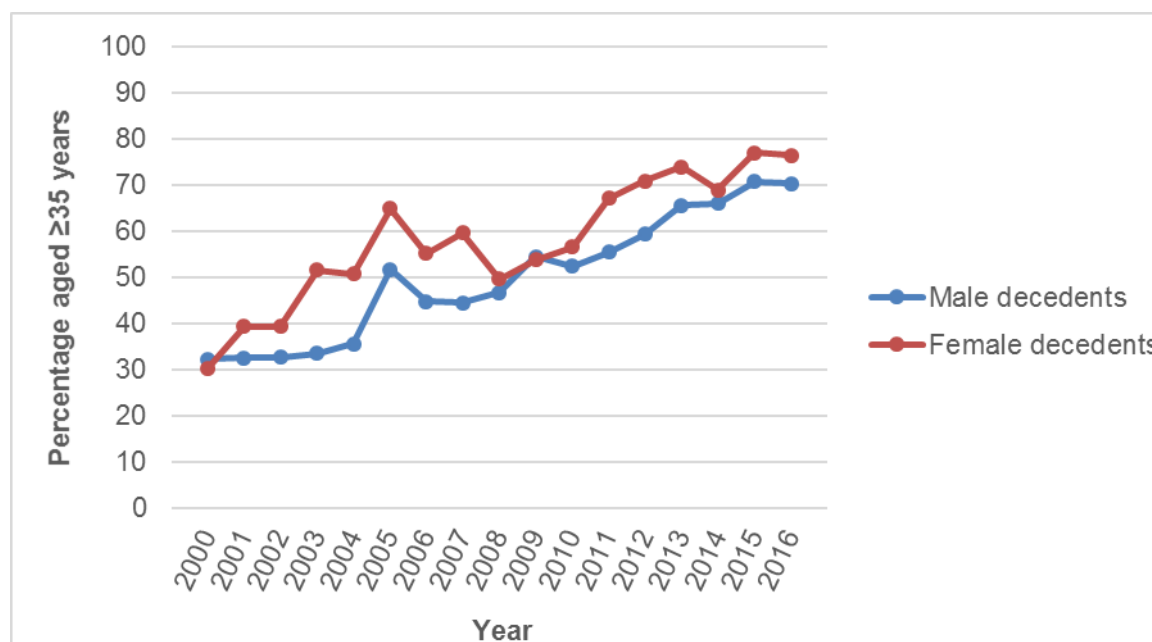


Source: National Records for Scotland. Note that numbers of drug-related deaths are based on data from 2011-2015, and estimated numbers of people with problem drug use are based on data from 2012/13. Note NRS caveat that these rates are broad indications only, as estimated numbers of people with problem drug use may be subject to wide confidence intervals.

Looking at trends over time, between 2000 and 2016 the proportion of drug-related deaths who were aged 35 years or more increased in both genders but in almost all years was higher for female decedents than male decedents

(Figure 4). That this is the reverse of the pattern seen for people accessing harm reduction or treatment services (Figure 2) may suggest either that older women are not accessing services or that they are at higher risk of death (or plausibly, and possibly relatedly, both).

Figure 4. Percentage of cases of drug-related death who were aged 35 years or more, by gender



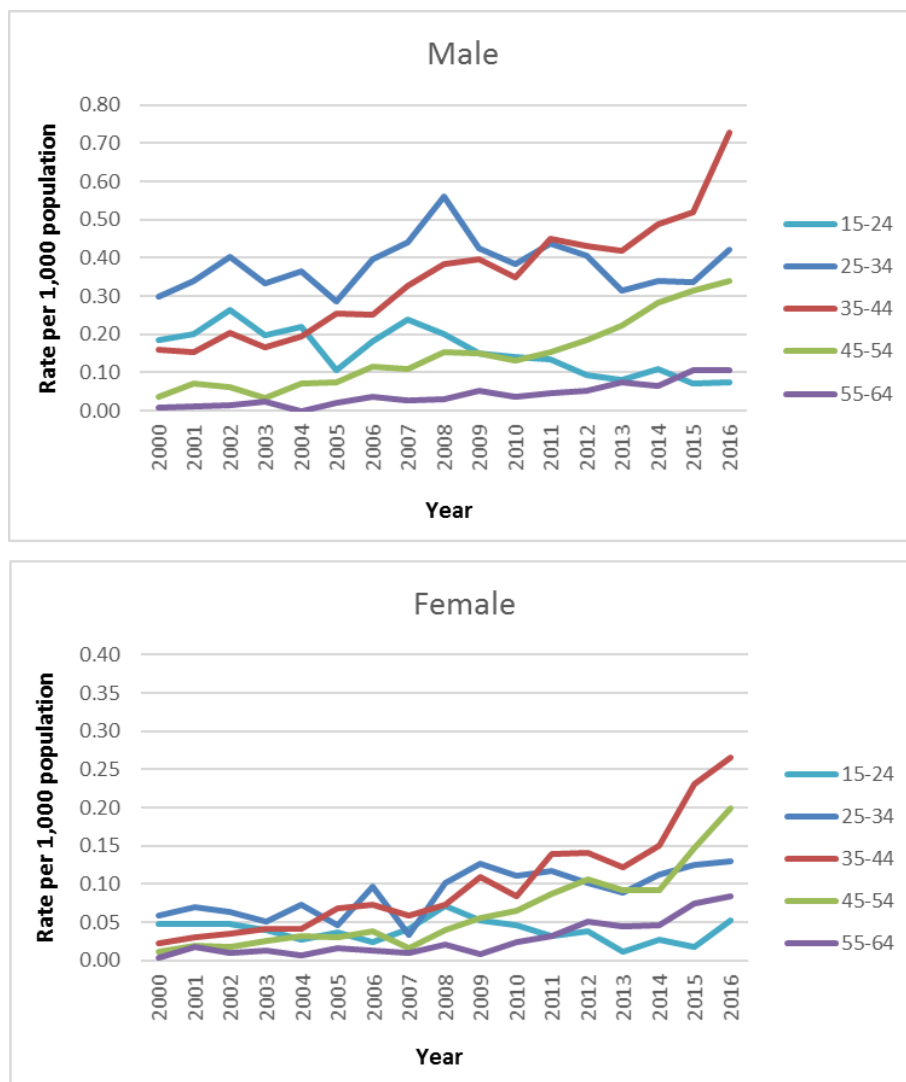
Source: National Records of Scotland

Together these findings suggest an ageing cohort of women who may be increasingly vulnerable to drug-related death, with levels of risk approaching – or exceeding – that of their male peers.

However, a number of factors argue against an ageing effect alone being a sufficient explanation of the increase in drug-related deaths among women. Firstly, DRD rates per 1,000 population have increased or remained largely stable *within* all age strata over the last 15 years, except for men aged 15 to 24, among whom they have decreased (Figure 5). As described above, data on trends over time in DRD rates per 1,000 people with problem drug use are not available; however, these general population rates suggest static or increasing risk even when age is held constant.

Secondly, it is important to examine why age is associated with an increase in the risk of drug-related deaths, and why this effect may vary by gender. It is unclear to what extent age exerts a direct causal effect on DRD risk (for example, through a greater burden of physical co-morbidities) or is a marker for other risk factors (such as poly-substance use, social isolation, or more complex life circumstances).

Figure 5. Rates of drug-related death per 1,000 population, by gender and age group. (Note different scales of Y axis).



Source: National Records of Scotland

Both stakeholder input and the published literature identified age as a factor that needed to be critically interrogated, arguing that it was important to understand the activities and experiences of those within this cohort (King et al., 2013, Scottish Drugs Forum, 2017, Gao et al., 2016). For instance, stakeholders posited that for people who use drugs, increasing age is associated with increasing isolation, as social networks are depleted through bereavement and other changes in friendship networks and family relationships. This was also a recurring theme in the qualitative work carried out as part of the Older People with Drug Problems project (Scottish Drugs Forum, 2017a), as illustrated by the quotations below. Some professional stakeholders interviewed felt that for some women in particular, mid-life and the menopause may be a particularly challenging life stage as they confront their loss of fertility in the context of limited or no relationship with their existing children, resulting in hopelessness for the future. Relationships, including as parents, are explored further in section 3.7.

“I think it’s got quite a lot to do with mental health, but sometimes I don’t know, I just, I’ve given up just now, because everybody’s been dying round about me, just giving up.”

(Interview 303)

“...now that I’m 35 I’m thinking “Oh my God, I’m nearly hitting 40, I’m still using gear, I haven’t got a job, a lot of mental illness, I haven’t got any kids, I’m not married. My Mum and Dad wanted more for me than that and I feel, they make me feel guilty about that you know.”

(Interview 503)

Ageing effects (which are the consequence of growing older) can also be difficult to separate from cohort effects (which are the consequence of being born during a specific period) and period effects (which are the consequence of factors that occur at a particular time and affect all age groups equally). A recent analysis of time trends in drug-related death risk in Scotland, which tried to disentangle these factors, found that as well as ageing, a cohort effect associated with an increase in risk among those born between 1960 and 1980, was present among women but less pronounced than among men (Minton, 2017).

Age may therefore be important not only as a cause of physical vulnerability but also as a marker of wider life changes and transitions as well as historical experiences. Many of these age-related factors – whether physical, mental, or social – are potentially amenable to intervention and support. Some are explored further in subsequent sections

3.6 Changing patterns of drug use among women

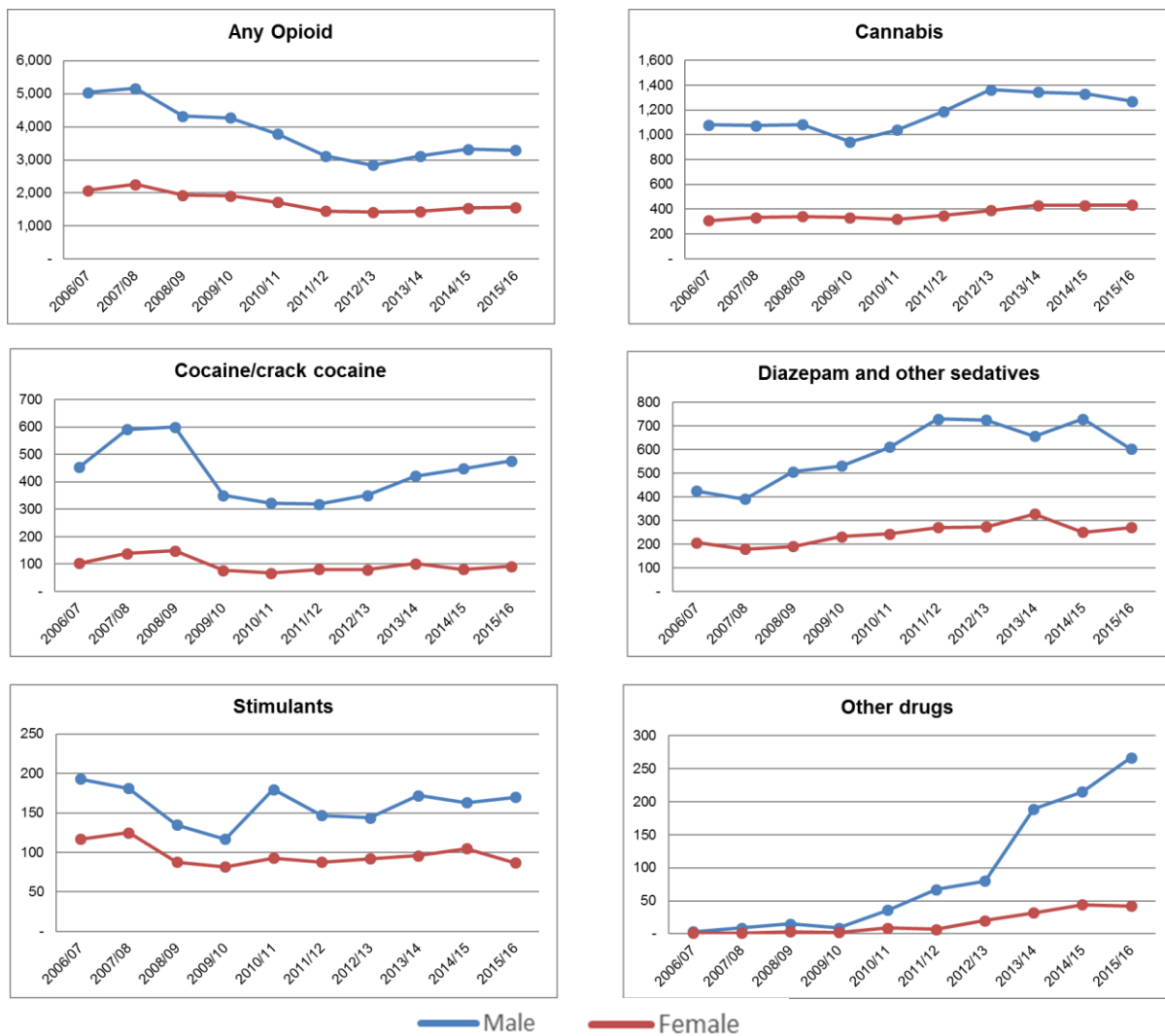
One potential explanation for changes in drug-related death rates might be changes in the type, combination, quantity, composition, frequency, and route of drugs consumed, which may in turn be explained by trends in availability, price, enforcement, or other factors.

Among people presenting for initial assessment in specialist drug services, trends over time in the main illicit drug of use (generally defined as the substance for which the individual is seeking treatment) have been relatively similar between the genders (Figure 6). Opioids remain by far the most common drug for which people seek help from specialist drug services, with presentations increasing recently following a longer-term decline in this drug type between 2006/07 and 2012/13. Looking at the proportion of people by drug type, opioids showed a lesser decline during the period 2007/08-2011/12 among women than men, and remained the main illicit drug among a higher proportion of women than men in recent years (e.g. 63% vs 54% in 2015/16). Both sexes showed slight increases over the long-term in the number of individuals seeking help for problems with sedatives (primarily

benzodiazepines) and cannabis. Both sexes showed increases in the number of individuals seeking help for problems with "other drugs", though this was more marked among men. These data are limited to a single drug, so will not capture instances where individuals are concurrently using multiple drugs. They are also based on individuals seeking treatment, though similar results were found in the NESI survey of people attending injecting equipment provision outlets in Scotland, which is likely to include a broader range of people than SDMD data.

Throughout the period 2008-09 to 2015-16, the NESI survey found that a similarly high proportion of both women and men reported having injected heroin in the last six months (97% women compared to 94% men over that period), though women's use of heroin showed a less pronounced dip in the years 2011-12 and 2013-14. Women taking part in NESI were less likely than men to inject cocaine, crack, or heroin/cocaine in combination, though both sexes showed a similar upward trend in cocaine and crack use in recent years. For injected speed (amphetamines) and injected benzodiazepines, numbers were small and there were no clear trends by gender. Data on legal high injecting have only been collected in one sweep of the survey to date but no gender differences in the prevalence of use were identified (10% among both men and women). Women participating in NESI were somewhat more likely to have received prescribed methadone in the last six months than men (82% vs 75% over the period 2008-09 to 2015-16), with fluctuating trends over time in both genders. This gender difference was also observed when restricting the analysis just to people currently injecting.

Figure 6. Number of individuals presenting for initial assessment in specialist drug services by gender, main type of illicit drug, and financial year. (Note different scales of Y axis).



Source: Scottish Drug Misuse Database, ISD Scotland

The following paragraphs describe findings from death registration data: for the purposes of this analysis, data on deaths meeting the Office for National Statistics (ONS) ‘wide definition’ of drug-related deaths were also reviewed, alongside the more limited number of deaths meeting the NRS definition, in order to examine the potential role of a wider range of drugs (including those currently or previously uncontrolled). When interpreting these data, it is important to bear in mind that determination of drug implication in deaths is complex and requires an element of subjective judgement on the part of the toxicologist, particularly for newer drugs. This is discussed further in a recent review of the role of benzodiazepines in drug-related mortality, undertaken by NHS Health Scotland (Johnson et al., 2016).

Death registration data shows that opiates are still the most commonly implicated drug in both sexes, and that they account for a substantial proportion of the increase in recent years (Figure 7).

When this is broken down by opiate, heroin/morphine and methadone are the most commonly implicated drugs (whether alone or in combination). The

number of deaths in which heroin/morphine is implicated have increased substantially since the early part of this decade, in both sexes. This may reflect the effect of the heroin shortage in 2010/11, but in both sexes the number of deaths in which heroin/morphine is implicated have now risen above pre-shortage levels.

Among women, the proportion of deaths involving methadone has in most years been slightly higher than among men, and the proportion of deaths involving heroin/morphine slightly lower. This is consistent with the somewhat higher proportion of actively injecting women who are receiving prescribed opioid substitution therapy (OST) observed in the NESI study (79% compared to 72% between 2008-09 and 2015-16; Health Protection Scotland, 2017a) and the higher proportion of female drug-related deaths who were prescribed OST at the time of death (Information Services Division Scotland, 2016a). Alternative (or concurrent) explanations might include higher rates of illicit methadone use or a greater physical susceptibility to complications of methadone treatment.

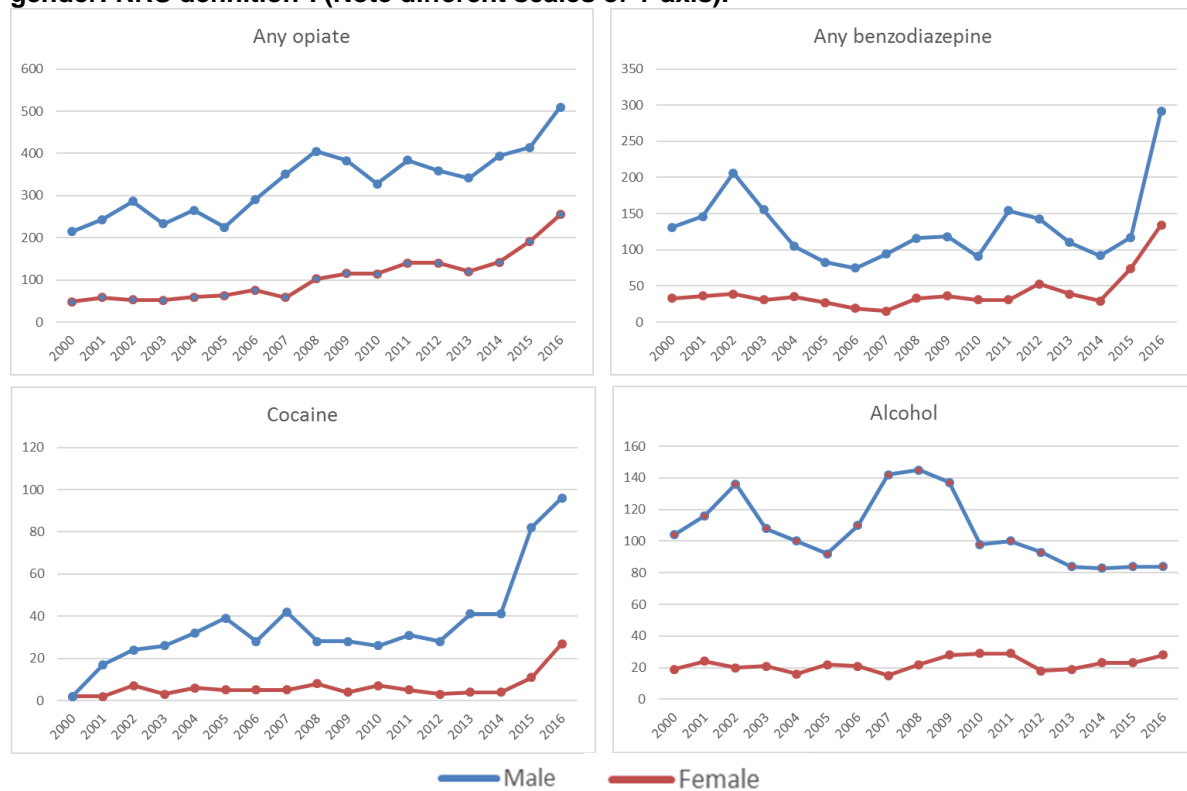
With regard to trends, there has been a gradual upward trend in the number and proportion of deaths in which methadone is implicated in both sexes, with an apparent jump in the last one or two years. The National Drug-Related Deaths Database contains information on methadone dosage, duration of treatment, and on the proportion of deaths where methadone was present who had an active substitute prescription: an analysis of gender differences in these factors might be a fruitful area for further analysis.

With regard to other opiates, deaths implicating codeine and dihydrocodeine have shown a slight increase in recent years among women decedents whilst remaining largely stable among men.

Other trends appear to be common to both genders. Since around 2014, there has been a pronounced rise in the number of deaths in which benzodiazepines are implicated among both men and women, and a lesser increase in the number of deaths in which cocaine is implicated (Figure 7).

The latest NRS data available indicate that novel psychoactive substances (NPS) implicated in drug-related deaths are almost exclusively benzodiazepine-type drugs, such as etizolam, and are almost always found in combination with other drugs (most commonly heroin and methadone). However, some stakeholders identified relatively recent concerns about increasing use of NPS among people with existing drug problems, which they linked to a growth in underground markets following the introduction of the Psychoactive Substances Act 2016. These trends may not yet be detectable in published drug-related deaths registrations but may be an area for ongoing vigilance.

Figure 7. Number of deaths where opiates, benzodiazepines, cocaine, or alcohol were implicated in, or potentially contributed to, the cause of death between 2000 and 2016, by gender: NRS definition*. (Note different scales of Y axis).



Source: National Records of Scotland

*NRS definition of drug-related death, based on UK Drug Strategy. These data will therefore not include deaths involving any substances uncontrolled at the time of death (e.g. an overdose of tramadol alone prior to 10 June 2014 or an overdose of etizolam prior to 31 May 2017). The dashed line delineates a change in reporting practice for drugs involved: up to 2007, some pathologists reported only those drugs which they thought directly contributed to the death, whereas from 2008, they report separately drugs which were implicated in, or which potentially contributed to the death (shown here), and those which were present, but were not considered to have contributed to the death (not shown here). Since these data record individual mentions of particular drugs, there will be multiple-counting of deaths where more than one drug is present.

Prescription drugs were identified by a number of stakeholders as a potential factor in the observed trend in DRDs among women, in two respects.

The first is the problem use of prescription drugs by women without a history of dependence on other drugs and who do not fit the conventional profile of people at risk of drug-related harms. This was discussed earlier, in section 2.1.

The second is prescription drug use (whether prescribed to that individual or obtained through illicit supply) among women with established problem use of street drugs who are typically known to addiction services and may have other complex needs, such as homelessness or trauma.

Prescription drug use was mentioned by a number of stakeholders, particularly in the context of polysubstance use and interactions with opiate substitution therapy. Drugs mentioned as being of particular concern in recent years and months include pregabalin and gabapentin and benzodiazepines, especially short-acting formulations such as alprazolam (Xanax). Some

stakeholders felt that women were more likely to be prescribed drugs with the potential for abuse such as gabapentinoids or opiate pain-killers, though illicit supply was also recognised as an important source. One stakeholder identified that prescription drugs – which are not detected on urine screening – may be particularly appealing to women, given the potential implications of a positive urine screen for child protection proceedings or custody arrangements.

Using the ONS ‘wide’ definition for drug-related deaths (which includes drugs not controlled at the time of death), there appear to be similarities and differences between the genders in deaths involving prescription drugs. As described above, there has been a pronounced increase in the proportion of deaths involving benzodiazepines in recent years, in both sexes. Deaths involving gabapentin have also shown a marked rise in both sexes, though this trend appears to have started slightly earlier among women than men (around 2010 vs 2012) and the percentage of deaths in which gabapentin is involved has consistently been higher among women than men. Both sexes have also seen slight gradual upward trends in the number of deaths with anti-depressants and/or anti-psychotics involved. These trends are illustrated in Figure 8. (Note that these figures are based on the ONS ‘wide’ definition of drug-related death and will therefore include some deaths not counted as part of the NRS definition used elsewhere in this report, and in particular, not counted in Figure 7).

With regard to polysubstance use, NRS death registration data show that the proportion of deaths in which only one drug (and, perhaps, alcohol) was implicated has declined among both sexes since 2007, with this proportion generally lower among women. For instance, in 2016, only 16% of deaths among women involved only one drug (and, perhaps, alcohol) compared to 24% among men.

Toxicology data from the National Drug-Related Deaths Database for the period 2009-2014 shows that the most common combinations of drugs found at post-mortem among women and men were those involving either heroin or methadone with benzodiazepines (Information Services Division Scotland, 2018b). In general, combinations involving heroin were more common among male decedents, whereas combinations involving methadone were more common among female decedents. For most combinations, the direction of the trend over time was similar for both genders, although the increase in heroin with gabapentin or pregabalin and in anti-depressants with dihydrocodeine was more marked among female decedents.

Polysubstance use (whether of illicit or prescribed drugs, or – most commonly – a mix of both) was felt by informants to be particularly problematic with increasing age, due to a loss of physiological reserve and greater prevalence of co-morbidities. It was queried whether biological differences in tolerance might also contribute to a particular vulnerability to polysubstance use among women who use drugs. If women are more likely to be prescribed or otherwise use high-risk prescription drugs, this might interact with the more pronounced

ageing phenomenon among women who use drugs described in section 3.5 to contribute to the trend observed.

Informants also acknowledged that patterns of substance use were complex and dynamic, often in ways that may not be captured through routine data: for instance, greater use of cocaine and crack on days when benefits were received.

It is unclear whether gender differences in harms might reflect differences in the prevalence of polydrug use or in vulnerability to its effects. Further work to investigate polysubstance use from routine data sources – such as SDMD and death registrations – is likely to be a valuable area for future work.

Although one stakeholder interview identified alcohol as a potential factor in drug-related deaths among women, NRS data on decedents indicates that the number of deaths in which alcohol is implicated has remained largely stable in both sexes over the past fifteen years (Figure 7).

Figure 8. Number of drug-related deaths involving selected prescription drugs between 2000 and 2016, by gender: ONS ‘wide’ definition*. (Note different scales of Y axis).



Source: National Records of Scotland

*The ONS ‘wide’ definition includes all deaths coded to accidental poisoning, and to intentional self-poisoning by drugs, medicaments and biological substances, whether or not a drug listed under the Misuse of Drugs Act was present in the body. The dashed line delineates a change in reporting practice for drugs involved: up to 2007, some pathologists reported only those drugs which they thought directly contributed to the death, whereas from 2008, they report separately drugs which were implicated in, or which potentially contributed to the death (shown here), and those which were present, but were not considered to have contributed to the death (not shown here). More than one drug may be reported per death. These are mentions of each drug, so do not add up to the overall total number of deaths.

3.7 Changes in relationships and parenting roles

This section investigates potential explanations relating to relationships, whether parent-child, family, social, or intimate.

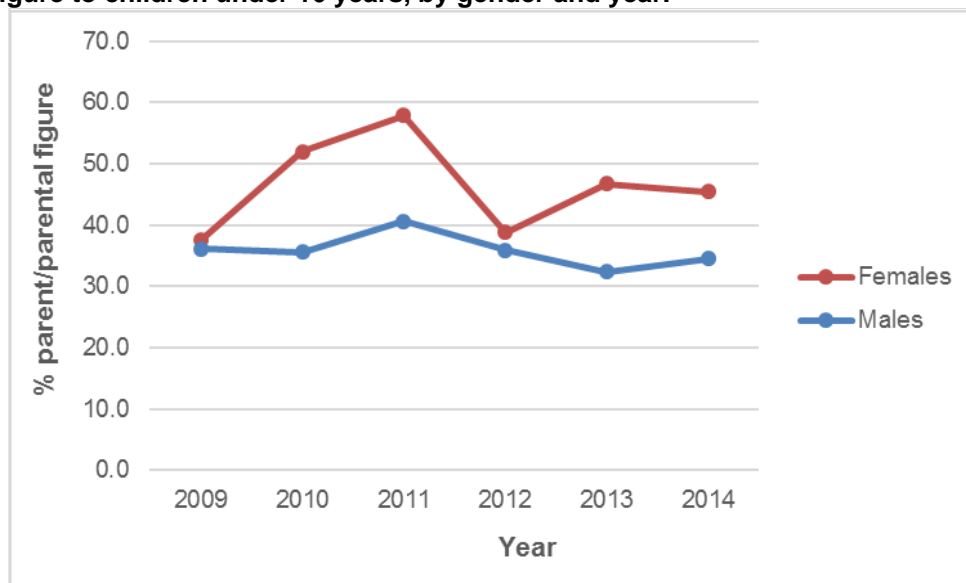
The link between loss of child custody and risk of drug-related death for women was a recurring theme in conversations with professional stakeholders and in the interviews with women who use drugs undertaken as part of the OPDP project. Both sources suggested that loss of child custody was closely linked to loss of motivation for recovery, feelings of hopelessness, and increased risk of drug-related death: this is supported by the limited literature available on this topic (as described in section 2), and by work in progress on this topic by researchers at the University of Glasgow (Russell, 2018).

With increasing age, women may have experienced multiple child removals, may have very limited positive family relationships, and may find the prospect of declining future fertility in this context difficult. Some professional informants felt these factors were contributing to feelings of hopelessness and risky consumption behaviours among women, which increased the risk of drug-related death. On the other hand, one informant suggested that without the risk of pregnancy and fear of child protection concerns, older women may be more able to engage with treatment services.

One stakeholder suggested that reorganisations in treatment services locally in their area may have increased the number of child removals, and therefore the risk of death among women, due to lower 'thresholds' around child protection issues in the new teams. However, it should be acknowledged that this was only one informant's view: other informants did not feel that child removals were increasing, but recognised it as an ongoing concern.

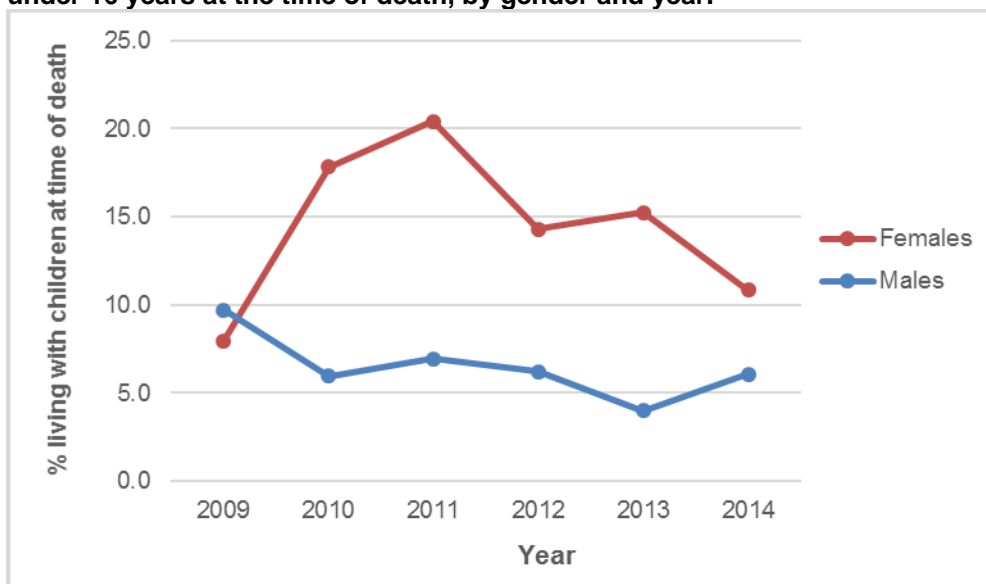
With regard to routine data on this topic, data from the National Drug Related Deaths Database show that the proportion of those dying from drug-related causes between 2009 and 2014 who were a parent or parental figure was somewhat higher among women than men (44.3% vs 34.1%) (Information Services Division Scotland, 2018b). Women dying from drug-related deaths were also more likely to live with children at the time of death than men (13.5% vs 6.1%). The proportion of women who died who were parents or parental figures, and the proportion living with children, increased between 2009 and 2011 and subsequently declined; among men who died, both measures have been relatively stable over time (Figure 8).

Figure 8a. Percentage of drug-related deaths where the deceased was a parent or parental figure to children under 16 years, by gender and year.



Source: National Database on Drug-Related Deaths, ISD Scotland

Figure 8b. Percentage of drug-related deaths where the deceased was living with children under 16 years at the time of death, by gender and year.



Source: National Database on Drug-Related Deaths, ISD Scotland

Scottish Government social work statistics show that the number of children 'starting to be looked after' (i.e. taken into local authority care, in whatever setting, for the first time) increased slightly between 2003 and 2009, before subsequently declining to reach a fifteen-year low in 2017 (Scottish Government, 2018). Although data are not routinely published on trends in the nature of the child protection concern, figures from 2016 indicate that parental

substance misuse (of alcohol and/or drugs) is a recorded concern in 39% of case conferences for children on the register.

However, these data – relating only to parental status of cases of drug-related death or aggregate population statistics on child protection – are limited in what they can reveal about the lived experience of parenting roles and social work involvement, and about trends over time. This is therefore an area that may merit further investigation, as described in section 4.3.

With regard to relationships more generally, increasing social isolation was identified as a growing problem by a number of stakeholders, and has also been highlighted in the OPDP qualitative work (Scottish Drugs Forum, 2017a). This was felt to be explained by deaths within peer groups, relationship breakdown with non-using friends and family among people who continue to use, the end of friendships with drug-using peers among people entering recovery, mental health problems, or a lack of trust in others following previous traumatic experiences. Some of these themes are illustrated by the quotations below.

These factors may be particularly salient for women: as described in section 2, women’s drug use tends to be more closely linked to intimate relationships and is more highly stigmatised. One informant suggested that women who use drugs experience greater downward ‘social drift’ than men and therefore a greater loss of social bonds over the course of their drug use, though a brief literature search did not find any evidence to confirm or refute this suggestion. Some stakeholders also highlighted a lack of gender-concordant peer support for women within existing services. On the other hand, there is some evidence to suggest that women are more able to establish new social relationships unrelated to drug use than men, and enjoy a greater level of practical and emotional support from family members (Neale, 2004), suggesting that social isolation may be less of a problem for women than men.

*“... move back to [place], so I can see my mum, and my family and my daughter and my grandchildren, and, because they all just think that I’m, you know, really f***** up, I am, you know what I mean, I am, I don’t lie to them, but I don’t know, it seems to be better when I’m around them, me and my mum are so alike, I couldn’t stay with my mum, because I stayed there for a wee while, but in the end, we end up fighting, and it’s the same with my sister, my dad, he’s only like got one room, so that’s no good, and he’s not talking to me at the minute, because of my sister, so I feel like I’ve just got nobody really”*

(Interviewee 318)

“So I needed [name], because my mum wasn’t well, because obviously I’ve cut everybody out of my life that I did, anybody I knew that was all to do with drugs.”

(Interviewee 126)

*“Participant: I was trying to keep myself away from the hospital [previously sectioned for mental health problems] and that, like if I get depressed and low and that, I just, I need to just isolate myself, I don’t want to be around anybody or that.
Interviewer: So what is it when you’re depression’s like that, is that how you tend to do it, isolate?
Participant: Ah ha, I just lock my door and don’t want to go out, sometimes I don’t even go out for my prescription.”*

(Interviewee 303)

3.8 Experience of adversity, trauma, and violence

Although experiences of adversity, trauma, and violence are relatively common among women who use drugs (Section 2), and may increase the risk of drug-related harms, identifying whether they might contribute to trends over time in mortality rates is more challenging. For instance, there is very little longitudinal evidence available from the published literature with which to understand trends.

The only source of routine data available on this topic is the National Drugs-Related Deaths Database, which collects information on whether the decedent was known to have been a victim of domestic violence or sexual abuse. Among those dying between 2009 and 2014, both of these experiences were much more common among women than men (74% vs 6% and 50% vs 8%, respectively), but there were no clear trends over time observed in either gender (Information Services Division Scotland, 2016b).

Stakeholders, however, did identify some potential factors which have changed in recent years which may interact with women’s experiences of adversity, trauma, and violence to increase the risk of drug-related harms, including death. These are noted below, though many are explored in greater detail in subsequent sections.

- Changes in the welfare benefits system which make women more vulnerable within relationships. For instance, sanctions may increase women’s financial dependence on partners, or force them to engage in commercial sex work. Another example cited was the move within the new Universal Credit arrangements for payments to be made to a single ‘head of the household’ rather than individual household members, though it should be noted that this is a relatively new change and not yet fully rolled out across the country.
- Life events or transitions which are more common among an ageing cohort, such as bereavements, multiple child removals, loss of fertility (Section 3.7), which may not only be traumatic in themselves but also compound the effects of previous trauma.

- Changes to health and social services which result in reduced provision (e.g. mental health), a lack of continuity (whether in services themselves or in staffing), or a less holistic approach (e.g. as a result of reduced staffing and skills within addictions services or more ‘punitive’ approaches). These changes particularly may affect engagement and outcomes among people with a history of trauma, who can experience particular difficulties in accessing services or establishing therapeutic relationships.

3.9 Co-occurring physical and mental health conditions

There is evidence that diagnosed mental health problems, prescribed psychotropic medications, and feelings of indifference and carelessness are risk factors for drug-related death (European Monitoring Centre for Drugs and Drug Addiction, 2012). There is also evidence that some physical conditions – such as hepatitis and cirrhosis – are also associated with increased risk (European Monitoring Centre for Drugs and Drug Addiction, 2012).

As described above, the link between age and concurrent physical and mental health conditions may be one of the mechanisms by which an ageing cohort of people who use drugs is associated with an increase in DRDs (Scottish Drugs Forum, 2017). A high proportion of interviewees from the OPDP project described co-existing mental and physical health problems, many of which were untreated or under-treated. Some of the barriers to treatment have already been described above in previous sections, including stigma, concerns about confidentiality, and difficulties attending scheduled appointments (and potentially being removed from practice lists as a result). Other factors mentioned were a perceived lack of time among GPs for patients who use drugs and poor continuity of substitute prescribing during periods of inpatient care.

“My mental health should be dealt wi’ more...eh the stigma. Doctors should listen to you more and... I think mainly older drug users, our bodies are all physically messed up wi’ arthritis and blood clots and whatever, we should have, right, we should have mair [more] checks on our bodies a couple o’ times a year to get checked out. A full MOT and all.”

(Interviewee 106)

“My partner, he’s saying to me, I think I’ve got that COPD [chronic obstructive pulmonary disease] or something, at night, it’s all bubbling and he said, he says it’s really scary, but, and I know I am, I get out of breath so easy, and it’s just wheezing...”

(Interviewee 421)

“And health ways, when you’re older and using heroin, I think you worry more about your lungs with smoking it, then you’re worrying about organ failure, if you’re injecting it, you know, stuff like that, because you get that the older, you know, you start worrying yourself, you know, about your health, and they say down at [name], that now they find that around about 42 year old, that organ failure can, it can start, you know, about that age, if you’ve been using long term”

(Interviewee 201)

Interviewees also described the link between life circumstances and physical health (for instance, being underweight because of a dislike for the food in temporary accommodation, or living on benefits) and between mental and physical health (for instance, depression causing weight loss).

During the period 2009-2014, female decedents were more likely than male decedents to be long-term sick or disabled (21% vs 17%), to have at least one physical health condition noted in their healthcare records in the six months prior to death (68% vs 54%) and to have had an acute hospital stay in the six months prior to death (Information Services Division Scotland, 2016a).

With regard to trends, the proportion of women who had experienced a recent physical health condition prior to death rose from 49% in 2009 to 76% in 2014 (Information Services Division Scotland, 2016a). For instance, the proportion of female decedents with a respiratory condition rose from 24% to 36% over the same period, compared to 16% to 20% among male decedents.

Female decedents were also more likely than male decedents to have at least one psychiatric condition noted in their healthcare records in the six months prior to death (66% vs 47%), and had a higher average number of psychiatric conditions. The mean number of diagnosed psychiatric conditions among decedents increased between 2009 and 2014 to a similar extent in both genders (women; 0.7 in 2009 to 1.2 in 2014, men; 0.5 in 2009 to 0.9 in 2014).

Data from drug treatment services can be used to ascertain to what extent these findings reflect trends in the population at risk. Among individuals attending drug services in Scotland for initial assessment or follow-up (SMR25a or SMR25b), the proportion who report co-occurring health issues has increased slightly among both sexes since 2006/07: this increase has been more pronounced among women than among men (Information Services Division Scotland, 2018a). For instance, 46% of both male and female clients in 2006/07 reported a co-occurring health issue: by 2015/16, this had risen to 54% of male clients and 62% of female clients.

When these figures are broken down by specific health problems, the proportion reporting drug-related physical health problems was slightly but consistently higher among female compared to male clients, with both sexes showing a small increase in recent years (to 32% among women and 30%

among men). The proportion reporting mental health issues has increased among both sexes, though this trend was more pronounced among women (22% in 2006/07 to 37% in 2015/16, compared to 20% to 27% among men). There was no clear trend in the proportion of clients reporting alcohol problems: rates continued to be higher among men but the data suggest a slight convergence in recent years.

These data are corroborated to some extent by a linkage exercise carried out as part of the OPDP project, which examined hospital admissions among a cohort of older people with drug problems identified from SDMD data, prescribing records, and drug-related hospital episodes (Scottish Drugs Forum, 2017). This found that admissions for asthma/chronic obstructive pulmonary disease (COPD), lung cancer, and depression were much higher among older women with drug problems compared to their male peers, and compared to women in the rest of the population. In contrast, older men with drug problems tended to have higher rates of hepatitis C, liver disease, psychosis and heart disease. These data suggest that co-morbidity varies with gender and with age, and point to some factors that may contribute to differential risk of drug-related death (for instance, poorer lung health among women).

More generally, poor mental wellbeing and sense of hopelessness among women who use drugs was mentioned as an important factor by a number of stakeholders. This hopelessness was felt to increase the risk of drug-related death, either directly by increasing the risk of deliberate (or 'ambivalent') overdose, or indirectly, by precipitating increased or more risky consumption patterns without any particular intent at self-harm. Several precipitating factors were described, including loss of access to children, bereavement, and changes to welfare benefits. Women interviewed as part of the OPDP project also identified a reciprocal relationship between social isolation and mental health.

There is wider evidence from population-based surveys that mental health has worsened in recent years among people living in the most deprived areas of Scotland and among people receiving welfare benefits such as Income Support/Job Seeker's Allowance (Scottish Public Health Observatory, 2017c) – both of which are likely to apply to a significant proportion of people who use drugs.

One participant in the Older People with Drug Problems project described how challenging 'everyday' tasks such as sorting out housing and benefits could be, and their effect on her mental health:

“I get panic attacks. Sometimes it’s a bit you know, I don’t really know why. They just come out of the blue you know. If I’ve got too many things to do, you know like say they go, “Right you’ve got to do this this week, and that this week” and I just panic cos I think somehow it’s, I don’t know why, cos, once I do it I can actually get it done. But I just go into this panic mode, changing address, ah, and it’s a big, and then once I’ve done it I think, “Why were you getting in a panic over that? It was only a couple of phone calls”. But I suppose because your life is so outside everything like that when you’re using all the time. When you suddenly have to do these things, you get panicky about them.”

(Interviewee 213)

During 2009-2014, suicides accounted for a greater proportion of drug-related deaths among women than men (14% vs 5%) (Information Services Division Scotland, 2016a). However, despite indications of an increase in mental health problems among this population, the increase in drug-related deaths among women in Scotland does not appear to be driven by an increase in suicides (see Appendix 4, additional table 2). The proportion of DRDs attributed to intentional self-poisoning among women has fluctuated over the years but the general trend is a stable or declining one, reflecting a small increase in absolute numbers that is outstripped by a much greater rise in deaths attributable to accidental poisoning and drug abuse. However, intentionality can be hard to define in this context, with key informants reporting that ambivalence of intention was common among people at risk of, or who have survived, overdose.

These data should be interpreted with a number of caveats: for instance, women in the general population tend to have a somewhat higher prevalence of limiting long-term illness and self-reported mental ill-health compared to men (Scottish Public Health Observatory, 2018, Bardsley et al., 2017), and there are limited data from sources other than treatment services or death registrations. However, together they do suggest that a greater increase in the prevalence of concurrent physical and mental health conditions among women who use drugs than their male peers, which may be contributing to increases in drug-related deaths.

3.10 Access to and engagement with treatment and harm reduction services

Sustained engagement with treatment services, including opiate substitution therapy (OST), is an important protective factor against drug-related death (European Monitoring Centre for Drugs and Drug Addiction, 2012, Mathers et al., 2013, Dickie et al., 2017). Conversely, there is good evidence that transitions in and out of treatment can increase risk of death among people who use drugs (European Monitoring Centre for Drugs and Drug Addiction, 2012, Dickie et al., 2017).

As described in Section 2, there is mixed evidence about women's access to and engagement with treatment relative to men, particularly from the UK.

Both the total number and proportion of clients undergoing initial assessment for specialist drug treatment who are female have remained relatively stable over the past ten years in Scotland (Information Services Division Scotland, 2017d). The proportion of women among people undergoing initial assessment in drug services over this period (28-31%) has been similar or slightly higher than the proportion of women observed in the NESI survey samples between 2008-09 and 2015-16 (ranging from 27-30%) and in the most recent estimates of the prevalence of problem drug use in Scotland (30%) (Health Protection Scotland, 2017b, Information Services Division Scotland, 2014). The fact that women are equally, or better, represented in data sources based on treatment services compared to data sources based on community surveys could be interpreted as an indication that, in Scotland in recent years, women with drug problems are equally or more likely to access treatment services than men.

There is some further evidence from the National Drug-Related Deaths Database to support this. Between 2009-2014, a slightly greater proportion of female decedents had been in contact with drug treatment services in the six months prior to death than male decedents (50% vs 42%) and to have been prescribed opioid substitution therapy at the time of death (38% vs 23%) (Information Services Division Scotland, 2016a). Female decedents were also more likely than male decedents to have experienced previous overdose (58% vs 48% for at least one, and 26% vs 15% for five or more).

These data may support the idea that for women, the problem may lie more with services not meeting the needs of clients or missed opportunities to intervene, than with difficulties in access. This was echoed by some stakeholders. It is also consistent with the observation from NESI that women attending injecting equipment provision outlets were more likely to have received prescribed methadone in the last six months than men, indicating ongoing street drug use despite opioid substitution therapy.

The interviews with older women with drug problems identified a number of factors associated with women leaving or being dissatisfied with treatment, including perceived under-dosing, reluctance to reduce dose, being on OST too long, and lack of support: some of these themes are illustrated in the questions below. Lack of capacity and time at drug treatment services was also mentioned. Conversely, some interviewees described positive experiences with services and support groups, though lack of awareness or misunderstandings about eligibility were cited as a barrier.

With regard to harm reduction interventions for drug-related death, the main source of information is naloxone supply and utilisation. Trends between 2008-09 and 2015-16 in the proportion of NESI survey participants reporting having been prescribed take-home naloxone (THN) were very similar by gender, with both men and women showing a substantial increase in THN receipt in the three successive surveys since 2011-12, from around 8% to

32%. There was a slight trend towards a higher proportion of women having been prescribed naloxone in recent years (for example, 34% among women compared to 31% among men in 2015-16) (Health Protection Scotland, 2017a). However, rates of carriage were low in both genders, and appeared to decline over time (for example, 8% in women and 5% in men in 2015-16). As described further in section 3.11, naloxone uptake among female prisoners on release appears to be relatively high.

The National Drug-Related Deaths Database found that between 2009-2014, women who died were more likely than men have been in the same room as another individual at the time of death (33% vs 23%, among those for whom data were available), though rates of naloxone availability and administration were similar (Information Services Division Scotland, 2016a). This suggests missed opportunities for resuscitation among fatal overdoses of both sexes.

“I think sometimes when you’ve been on methadone for a wee while, and you fall back into heroin, they could put you up, you know, but they’re keeping me at 20ml, they’re not budging with my 20ml, there’s a lot of folk on and then they’re set up for 30ml, I’m only 20ml at [name], and they’ll no budge and put my methadone up, even though I went back onto heroin for a year, there’s still expecting me to get off the heroin, giving me 20ml of meth, which is impossible, you know, I just can’t do it.”

(Interviewee 201)

“Every time I asked them to drop me down, they wouldn’t drop me down, they kept telling me it was too early, but I knew I was ready to get dropped down, you know.”

(Interviewee 409)

“They say they’re too busy down there, because it is bursting at the seams at [name], because a lot of younger ones are coming in now, you know, and they’re more wanting, I think they’re more wanting to pinpoint them than the older ones.”

(Interviewee 201)

“Right, I found I’ve got an awful lot of positive help now, which I had no idea was available to me...I never attended any of those groups, even although I knew they were out there, the reason being I never went to them was because I was using, I thought you had to be totally clean before you could use them”

(Interviewee 128)

“Any time you need anybody to talk to, there’s always somebody free, they do a drop-in twice a week, they’ll help you with benefits, housing, basically anything they can help you with, if you come and ask, they’ll open that door to anybody and help them.”

(Interviewee 512)

Although this topic has not yet been explored in Scotland in detail, recent reports by Public Health England and the Advisory Council on the Misuse of Drugs have suggested that changes in drug treatment services in England may have been a contributory factor to rising DRD rates, for instance through disruption to the continuity of relationships with service users and partnership working with other agencies (Public Health England, 2017, Advisory Council on the Misuse of Drugs, 2016).

Though the commissioning and service provision landscape in England is distinct to that in Scotland, stakeholders did highlight the potential impact of recent cuts to local drug treatment services. Examples were also cited of gender-sensitive or specific services which had been discontinued, such as a residential family unit in Glasgow and a women's homelessness service in Edinburgh. Lack of funding was felt to create high thresholds for support that meant that services could only deal with individuals in crisis, rather than on a more proactive basis, and to favour services with lower paid and therefore less skilled or experienced staff. More generally, short funding periods and the commissioning cycle were reported by informants to be challenging in services that depended on relationships, continuity, and trust.

Some stakeholders also raised the role of recovery-oriented approaches to policy and practice. The Public Health England report on drug-related deaths noted that, although no direct relationship could be established, poor recovery-oriented practice may put people at greater risk (Public Health England, 2017). A number of staff from services and academia described gaps in harm reduction provision and potential unintended consequences of recovery-oriented approaches, such as a drive to reduce or cease OST, or a drugs-focused approach less able to address holistic issues around social inclusion, housing, employment, and mental health. Some felt that women might be more vulnerable to the potential risks of a recovery-oriented treatment system, due to the greater salience of stigma and child protection concerns, and relational factors influenced by previous trauma.

Some stakeholders also felt that women were not recognised or accommodated within the growing recovery communities and networks across Scotland, though others identified examples of women-specific groups. However, it was generally agreed that women (and men) may be vulnerable within recovery settings to exploitation, coercive or abusive relationships, or stalking, especially given that recovery processes often involve discussing personal experiences and information. Some of these networks were felt to be under-resourced and perhaps to lack appropriate governance.

Concerns were also raised by some stakeholders about recent reductions in provision of allied services which support people with drug problems, such as education, training, and employability support. Lack of access to these, either due to service cuts or funding restrictions (e.g. lack of funds to cover travel expenses), were felt to hinder women's efforts to achieve sustained reductions or cessation in drug use.

As people who use drugs age, their health and social circumstances are likely to become more complex (Scottish Drugs Forum, 2017), and they are likely to come into contact with a broader range of services than just drug treatment. The complex health and social needs of this cohort – and the ‘treatment burden’ involved in managing those needs – may affect their engagement with addictions care, as well as vice versa. The Public Health England report noted that for many cases of drug-related death, their contact with services was characterised by frequent movement between drug treatment, mental health care, physical health, and housing support. This was also evident from the National Drug-Related Deaths Database for Scotland and was particularly marked for women, who were more likely than men to have had contact with services other than drug treatment, such as social services and mental health care, in the period leading up to death. This is likely to be an ongoing or increasing issue given the increasing prevalence of concurrent physical and mental health problems among this cohort (section 3.9) and their vulnerability to wider economic trends and welfare reform initiatives (section 3.12). Such interactions and transitions may again represent opportunities for intervention and for greater co-ordination of service provision.

3.11 Experiences of prison and liberation

Recent release from prison is one of the most potent risk factors for drug-related death (European Monitoring Centre for Drugs and Drug Addiction, 2012). Imprisonment was generally recognised by stakeholders as a difficult and disruptive event for women who use drugs, which was often accompanied by the loss of child custody, relationship breakdown, housing difficulties, and deteriorations in mental health.

In 2013, 53% of female prisoners surveyed in Scotland reported drug taking being a problem on the outside; this had decreased to 38% in 2015 (Scottish Prisons Service, 2016). The number of women imprisoned increased by 46% between 2003-04 and 2013-14, outstripping the rate of increase observed among the male prison population; the average length of women’s sentences also increased somewhat over a similar period (Prison Reform Trust, 2017). Although one stakeholder queried whether women are more likely to receive custodial sentences for drug-related offences compared to men, no evidence to test this suggestion was identified.

Problems experienced by women in the criminal justice system were mentioned by a number of informants, including cessation of OST on entry to prison and lack of throughcare support for issues like drug treatment, housing, and relationships.

However, there is some evidence that women’s prisons are performing relatively well on other aspects of harm reduction: uptake of take-home naloxone at the point of release appears to be significantly higher among female prisoners than male. Women account for approximately 5% of the average daily sentenced prison population in Scotland but between 18% to 32% of the naloxone kits supplied in this setting over the last five years (Information Services Division Scotland, 2017c). However, whether this

observation has an impact on drug-related deaths will depend on a multitude of other factors, including the likelihood of kits being carried and appropriately used, and the likelihood of overdoses occurring in the presence of others: it may be that higher supply among women is primarily likely to benefit their partners. Gender differences in the availability and use of naloxone among people experiencing drug-related deaths are discussed in section 3.10.

The latest available data from the National Drug-Related Deaths Database shows that, during the six-year period 2009-2014, female decedents were less likely than their male counterparts to have been in prison in the last six months (8% vs 17%) or ever in their lives (32% vs 56%) (Information Services Division Scotland, 2016a). The report indicates that the prevalence of prior imprisonment among people experiencing a drug-related death fluctuated over this period for both genders, suggesting no clear trend.

3.12 Economic and social trends, including austerity and welfare reform

There is a growing evidence base about the short- and long-term impact of economic trends and policy on health and health inequalities (Parmar et al., 2016, NHS Health Scotland, 2017, Glonti et al., 2015). Some of these impacts appear to differ by gender: for instance, national economic crises appear to have a greater negative effect on mental health among women than men, though for suicide the reverse is true (Glonti et al., 2015).

The health impacts of economic change may be mitigated or exacerbated by policy responses, including public spending on healthcare, social security, and other public services (NHS Health Scotland, 2016, Scottish Public Health Network, 2013). In the UK, the 2008 recession has been followed by a programme of public sector austerity and changes to the welfare benefits system.

Several reports have highlighted the gendered impacts of these policies, with women disproportionately likely to be affected by cuts to public services and changes in the availability, generosity, conditionality, and administration of welfare benefits (Scottish Government, 2013, Engender, 2015, Rubery, 2015).

People who use drugs may also be particularly vulnerable to these changes, for a number of reasons. Firstly, they are more likely to live in the most deprived areas of Scotland, which are often disproportionately affected by current and historical economic policies, particularly austerity; secondly; they typically experience extremely precarious financial and social circumstances, with high rates of unemployment and welfare benefit receipt; and thirdly, they often have complex health and social needs requiring care from statutory services.

Women who use drugs therefore experience an intersection of structural factors which may heighten vulnerability to the adverse impacts of welfare reform. Two major reports on drug-related deaths have alluded to the impacts of welfare reform in their conclusions. The recent Advisory Council on the Misuse of Drugs (ACMD) report on rising opioid-related deaths identified as a

potential contributing factor the deepening of socioeconomic deprivation in the UK since the 2008 financial crisis, with its associated implications for individuals, treatment services and the welfare system (Advisory Council on the Misuse of Drugs, 2016). For instance, it noted that in England, recent increases in deaths have been greatest among most deprived areas, which are also those which have had the greatest reductions in local authority funding and working-age adult welfare benefits. Local stakeholders for the Public Health England (PHE) report on drug-related deaths also highlighted delays or withdrawals in benefits, which not only have a direct impact on individual health and substance use but may be followed by lump sum repayments that exacerbate short-term risk (Public Health England, 2017). Although the latter report focused on trends in England, the reserved nature of welfare benefits during the period of interest means that some of its conclusions may also apply in the Scottish context.

This was echoed by stakeholders, who highlighted how past and present social and economic policies, including the welfare system, have had a significant role in shaping the lives of people who use drugs.

One service manager went as far as to state that poverty was the single biggest explanatory factor in the rise in drug-related deaths in recent years. A number of informants were concerned that changes to the benefits system – such as conditionality, sanctioning, and payments to a household as a whole rather than individual members – may have increased women’s vulnerability to abusive relationships, sexual exploitation, or commercial sex work. Another stakeholder working with families affected by substance use described examples of women being sanctioned for being five minutes late to an appointment after taking a child to the toilet. One informant felt that women are likely to be less assertive in accessing benefits they are entitled to, particularly in a context which is increasingly hostile for claimants. Another informant mentioned austerity-driven cuts to drug treatment and mental health services as a potential factor in rising deaths: the latter might particularly affect women who use drugs given their higher prevalence of common mental health conditions.

Among women interviewed as part of the OPDP project, several had had benefits withheld or cut, largely as a result of missing appointments. In one case poor mental health was explicitly cited as the cause of missed appointments and the resulting cuts to benefits.

It is therefore plausible that austerity and welfare reform may play a role in rising rates of drug-related death, and that women may be particularly vulnerable in this regard.

One specific concern raised was rates of homelessness among people who use drugs, particularly in the context of cuts to housing benefits and welfare reform more generally.

Data from the National Drugs-Related Deaths Database found that between 2012 and 2014, there was a slight increase in the proportion of women dying from drug-related deaths who had been in contact with homeless services in

the six months prior to death, from 19% to 23% (Information Services Division Scotland, 2016a). However, between 2009 and 2014 the proportion of women who were homeless or living in temporary accommodation at the time of their death was much lower (ranging between 0.0% and 2.2%), and fluctuated without any clear trend – as did the figure for men (Information Services Division Scotland, 2016b).

Looking at NESI data from people attending injecting equipment provision outlets, the proportion of respondents reporting homelessness in the last six months was generally lower among women than men, but fluctuated among both sexes between 2008-09 and 2015-16, with no clear trend over time (Health Protection Scotland, 2017a).

These data suggest that homelessness is unlikely to be a major factor in the trends observed but it will be valuable to see updated data on this question from the forthcoming National Drugs-Related Death Database report, and additional investigation – for instance, by analysis of housing status among SDMD clients – may be warranted to explore this possibility further.

3.13 Summary of explanations

As described above, the question of what might explain a disproportionate rise in drug-related deaths among women is methodologically challenging, and is likely to have a complex answer, involving multiple interacting factors. From this scoping, the following factors have been identified as potentially contributing to the trend. Again, these are not presented in order of importance or certainty.

- Ageing among a cohort of women who use drugs, which may be more pronounced among women than men and which may act to increase the risk of drug-related deaths through a range of factors, whether individual (e.g., co-morbidities), clinical (e.g. polypharmacy), and social (e.g. bereavements, loss of maternal role).
- Changes in patterns of substance use, particularly polysubstance use and potential increases in the problem use of specific prescription medications (whether prescribed directly or obtained illicitly). These changes might interact with the ageing phenomenon to further increase risk.
- Increasing prevalence of physical and mental health problems, which appears to be more pronounced among women who use drugs than their male peers; this may be linked to the ageing phenomenon described above.
- Changes in relationships and parenting roles, including social isolation and the potential cumulative impact of multiple child removals.

- Ongoing risk among women engaged with drug treatment services, potentially reflecting failures to meet needs or missed opportunities.
- Changes to treatment services, and wider health and social services, particularly cuts in funding resulting in withdrawal of services, reduced provision, under-staffing or under-skilled staffing, lack of continuity in relationships, or a change in ethos.
- Unintended consequences of the policy and practice focus on recovery-oriented systems of care, which some stakeholders felt may have adversely affected harm reduction provision and efforts to address broader life circumstances.
- Changes in the welfare benefits system which may particularly impact on women, and which may interact with:
 - Vulnerability to abusive or coercive relationships
 - Involvement in commercial sex work
 - Previous or ongoing experiences of trauma
 - Mental health issues
 - Cuts to drug treatment services and other health and social care provision
- Interaction between factors above and known barriers for women engaging with treatment services, which may be practical (such as caring responsibilities) or psychological/relational (such as stigma, coercion, and fear of losing custody of children)
- Interaction between the factors described above and previous experiences of trauma and adversity, which affect vulnerability to new challenges, coping strategies, and access to and engagement with services.

Other factors identified which merit further investigation for their potential role include:

- A possible population of women at risk who may be older, predominantly using prescription drugs, and not otherwise known to services.
- Potential problems with drug treatment and throughcare for women in the criminal justice system.

Factors which seem less likely to explain the trends observed include:

- Changes in reporting or recording practices for drug-related deaths.

- Changes in background mortality risk among women in the general population.

3.14 Limitations

The analysis provided here has a number of limitations, largely due to the time and resource constraints involved in this project:

- A formal literature review was not undertaken: rather, the overview of evidence presented here drew on a bibliographic search for systematic reviews, snowballing from relevant articles, and existing grey literature. A more rigorous and systematic review may be warranted to further investigate some of the areas of interest identified above or the emerging implications discussed in the next section.
- Recruitment of informants took place through existing networks and snowballing, using a mix of purposive and convenience sampling. Although efforts were made to ensure a broad geographical and professional scope, this was a qualitative sample and therefore does not attempt to provide a fully representative approach.
- As described above, routine data sources relating to problem drug use have a number of limitations – particularly for accurately understanding the characteristics and experiences of the population at risk. Only a limited descriptive analysis of existing routine data was undertaken here: some of the areas of interest identified may merit more rigorous and detailed epidemiological investigation.

It is also important to note the potential limitations of the definition of drug-related deaths which is used in published statistics and which has provided the focus for this project. This definition focuses on deaths associated with acute drug use, and will exclude some deaths resulting from indirect or longer-term effects of drug use or other causes of mortality among people who use drugs. Examples might include hepatitis C, HIV, or other infections acquired through injecting, or external causes such as accidents, assaults, and suicides not involving controlled drugs. These other causes of death among people who use drugs may show important differences by gender, which would not be accounted for here, though many of the same themes might apply.

4. Emerging implications

4.1 Introduction

“The starting point in developing gender-sensitive drug policy must be to recognise points of similarity and difference between the lives of female and male drug users. Intersectional approaches are useful here which do not assume that gender is the most important factor in shaping the experiences of drug users and provide space to consider the role of other factors - individual, social and cultural - which may be related to drug use. The latter involves recognition that drug users’ experiences are shaped, but crucially are not determined by, structured inequalities.”

Wincup (2016)

Although it was not within the scope of this project to provide comprehensive recommendations, some potential responses did emerge from the stakeholder conversations and overview of the literature. These are described below as approaches meriting further consideration, for instance through focused evidence reviews or feasibility studies.

Many coincide with the recommendations of other recent reports in this area, including the Older People with Drug Problems project and the ‘Keeping People Safe’ review by NHS Health Scotland (Dickie et al., 2017, Scottish Drugs Forum, 2017). Of note, a significant number relate to the operation and ethos of services: as a recent review of services for women experiencing multiple disadvantage put it, moving beyond merely *what* is delivered to *how* it is delivered (AVA & Agenda, 2017).

A number of areas for further work on this topic are also identified. Much of the research to date has focused on opioid-using women of child-bearing age, with less attention to women who use other drugs or who are older (European Monitoring Centre for Drugs and Drug Addiction, 2017a). Similarly, many efforts at gender-sensitive approaches to drug treatment have focused on women who are pregnant or have young children. In the context of an ageing cohort, additional evidence and different approaches may be required.

It is important to note that both the existing literature and some stakeholders were cautious about the potential unintended consequences of a gendered approach to drug policy and treatment services – for instance, by diverting attention away from men who use drugs, who remain at the highest risk of death. Any responses to the situation at hand should recognise on one hand, the commonalities between men and women who use drugs – particularly in a situation where rates are converging – and on the other, the diversity of experience and needs among women who use drugs. Gender should be considered as a dynamic concept with enmeshed social and biological origins,

which interacts with other factors such as socioeconomic position, ethnicity, parenthood, and societal structures. This report therefore advocates a gender-sensitive or gender-informed approach, rather than gender-specific one: indeed, many of the proposals below are likely to be of benefit to both men and women.

4.2 Implications for policy and practice

- Adoption of ‘gender mainstreaming’ practices in substance use policy and practice would contribute towards the gender-sensitive approach described above and as advocated by Wincup (2016). Gender mainstreaming refers to a systematic and meaningful consideration of the implications for both women and men when developing, implementing, and evaluating changes in policy and practice, with a view to promoting gender equality. A number of resources relevant to gender mainstreaming in drugs policy are already available (for example, European Institute for Gender Equality, 2017, United Nations International Crime and Justice Research Institute, 2015, European Monitoring Centre for Drugs and Drug Addiction, 2017b).
- Involvement of women with lived experience in design and delivery of services and policies, recognising that wider efforts to engage service users have not always succeeded in reaching women and that women who use drugs have a diversity of preferences and needs (Hankins, 2008, European Monitoring Centre for Drugs and Drug Addiction, 2017a).
- A more co-ordinated and holistic approach across substance use treatment, mental health, physical health, and social support (including housing, employment, legal and financial advice). This approach has been recommended by recent reports from the Scottish Drugs Forum, the European Monitoring Centre for Drugs and Drug Addiction, and Public Health England. Elements of this approach might range from workforce training, multidisciplinary meetings, and robust referral pathways to a holistic approach to treatment eligibility and thresholds and greater integration of services.
- Trauma-informed and psychologically-informed services, which recognise and respond to previous experiences of adversity and their ongoing influence on people’s circumstances and engagement with treatment. Again, this approach has been endorsed by the European Monitoring Centre for Drugs and Drug Addiction and Scottish Drugs Forum, as well as a range of academic and professional stakeholders (Scottish Drugs Forum, 2016, European Monitoring Centre for Drugs and Drug Addiction, 2017a, Simpson and McNulty, 2008). The key characteristics of this approach are described in the text box below. There is a growing body of literature and practical resources in this area, as well as the related issues of multiple disadvantage and adverse childhood experiences, and ample potential for cross-sectoral collaboration across homelessness, justice, mental health, education, and children’s services.

- Services that are responsive to the ongoing risk of abuse and violence, through initiatives for prevention, recognition, support, and onward referral (Scottish Drugs Forum, 2017, Hankins, 2008, AVA (Against Violence and Abuse) Project, 2013).
- Outreach interventions targeting people who have recently experienced non-fatal overdoses, given that non-fatal overdoses are a key predictor of drug-related death risk: 17% of those of both sexes who died from DRD in Scotland between 2009-2014 had experienced an overdose within three months prior to death. These were mentioned by several stakeholders and expert reports (Advisory Council on the Misuse of Drugs, 2016, Public Health England, 2017, Scottish Drugs Forum, 2016).
- Given the relatively high prevalence of concurrent mental health conditions among women (and men) who use drugs and their association with drug-related death risk, interventions in this area may hold promise. Approaches mentioned in the literature include psychosocial interventions, intensive case management, assertive community treatment and – as described above – greater integration of substance use and mental health treatment services (Brentari, 2011, Luchenski, 2017).
- Ensuring adequate provision of and access to low-threshold services and crisis provision, to support those at especially high risk of drug-related death and those less able to engage with specialist services or recovery-oriented approaches.
- Enhancing the provision of employability, education, training, and volunteering opportunities, to address the boredom, social isolation, and lack of opportunities many women (and men) encounter when attempting to reduce or cease drug use.
- Child- and family-sensitive treatment services, and support for family relationships. Such approaches would recognise the importance of family relationships and parenting to recovery and harm reduction, and might include options which make childcare arrangements easier (for instance through suitable timing and location of appointments, including home visits), residential treatment services which support family integration, and support for parenting and re-establishing family relationships. One such approach cited by stakeholders as an example of best practice was a residential facility permitting women to live with their children whilst undergoing rehabilitation: however, this facility is now closed, apparently due to funding issues. Another example is a recently-initiated home detox programme run by Barnado's in Fife.
- Enhanced support at specific times of vulnerability, such as bereavements and loss of child custody.
- Additional assistance for individuals with benefits, housing, and legal issues, to help mitigate challenging financial and social circumstances - particularly those associated with welfare reform. These might usefully be

delivered through integration or co-location with drug treatment services and in other healthcare settings.

- Exploring the feasibility, evidence base, and preferences for gender-concordant workers and female-specific recovery groups.
- Provision of a broader range of treatment options in drug treatment services; for instance, opioid substitution therapies other than methadone, psychological support.
- Protecting and, where possible, enhancing funding for drug treatment services – particularly harm reduction – and mental health care.
- Developing the potential of impact assessment of changes in the configuration or commissioning of drug services, to ensure that assessments are meaningful, evidence-informed, and sensitive to local context.
- Addressing stigma and marginalisation, which remains a universal problem among people who use drugs but may be particularly salient for women.
- Strengthening efforts to mitigate the adverse impacts of welfare reform, especially among those who may experience disproportionate harms, as well as ensuring sufficient attention to the intersection between gender, substance use, mental health, and other inequalities in the design of Scotland's new social security system.

The core components of a gender sensitive service for women experiencing multiple disadvantage: adapted from AVA & Agenda (2017)

- High-quality relationships built on trust – e.g. non-judgemental attitudes by staff, meaningful listening, dignity and respect, directed by women's needs and at own pace
- Continuity and persistence – e.g. cases not being closed but “shelved”, so service is available for as long as required; ‘stickiness’ of support
- Ethos of service – sense of hope, faith in individuals, belonging
- Trauma-informed care – trauma awareness; establishing safety, trustworthiness, choice & collaboration; building of strength and skills; integrated counselling
- Strengths-based, empowerment models based on collaboration and choice (not control by staff)
- Holistic services
 - assigned keyworker and individual casework approach
 - access to range of services relating to health, social care, housing, welfare rights, immigration
 - immediate crisis support
 - parenting support, childcare, support around social service involvement
 - structured activities to reduce social isolation
 - opportunities for education and training, incl. voluntary work
- Focus on physical and emotional safety

4.3 Implications for future analysis and research

- Gender mainstreaming should apply with regard to research and evaluation, as well as policy development. For instance, potential differential impacts by gender should be considered when planning the evaluability assessment for the drug treatment strategy refresh.
- Many of the potential responses above are likely to require further investigation for feasibility and impact, prior to their adoption: this may involve focused literature reviews or bespoke analyses of existing data.
- Much of the analysis here is based on cross-sectional data from treatment settings, or about people who have died from drug-related causes. More information from population-based cohort analyses would be beneficial in order to better understand changes in the composition, risk factors, and mortality rates of the population at risk and to test hypotheses relating to trends. Data linkage methods may be particularly valuable to this end.

- More in-depth qualitative work to understand women’s experiences and the risk of drug-related death would also be beneficial, particularly in relation to:
 - The intersection between gender, substance use, and welfare reform
 - Missed opportunities or unmet needs in treatment services
 - The impact of changes to drug treatment services, and wider health and social care services
 - Gender aspects of naloxone supply and administration
- Additional analysis may be warranted in order to understand the prevalence and role in deaths of inappropriate or illicit use of prescription drugs, and in particular of polysubstance use, and how this may differ by gender. This could draw on data from SDMD, NDRDD, NRS, and the Prescribing Information System, as well as insights from dedicated qualitative work.
- Further investigation of the possibility of ‘hidden’ populations of people who use drugs, through both quantitative and qualitative methods.
- Further investigation of the relationship between child protection/social work involvement and women’s vulnerability to drug-related harms. Some work is already ongoing on this topic in Scotland, including a mixed-methods project at the University of Glasgow due to report initial results later this year (Russell, 2018). Further work might encompass detailed analysis of routine social work statistics, data available on parenthood from the National Drug-Related Deaths Database, evidence review, and/or bespoke qualitative work.

Acknowledgements

The assistance of the following is gratefully acknowledged:

- All the staff from front-line services, academia, and the third sector who took part in our stakeholder conversations (See Appendix 2 for a summary of informant roles)
- All the women who took part in the qualitative element of the Older People with Drug Problems project, and to the peer researchers who undertook the interviews
- Scottish Government Library Services, for undertaking the literature search
- Frank Dixon (National Records for Scotland), Lee Barnsdale, Xanthippi Gounari and Jaroslaw Lang (ISD Scotland), and Andy McAuley (Health Protection Scotland/Glasgow Caledonian University) for providing data to inform the synthesis, and for their advice on analysis and interpretation
- Mark Lawson, Fran Warren, Fiona Fraser, Maggie Page and Carol Brown (Scottish Government), and Elinor Dickie (NHS Health Scotland) for guidance throughout the project

References

- ADVISORY COUNCIL ON THE MISUSE OF DRUGS 2016. Reducing Opioid-Related Deaths in the UK. London: ACMD.
- ALDRIDGE, R. W., STORY, A., HWANG, S. W., NORDENTOFT, M., LUCHENSKI, S. A., HARTWELL, G., TWEED, E. J., LEWER, D., VITTAL KATIKIREDDI, S. & HAYWARD, A. C. 2017. Morbidity and mortality in homeless individuals, prisoners, sex workers, and individuals with substance use disorders in high-income countries: a systematic review and meta-analysis. *Lancet*.
- ASHLEY, O. S., MARSDEN, M. E. & BRADY, T. M. 2003. Effectiveness Of Substance Abuse Treatment Programming For Women: A Review. *The American Journal of Drug and Alcohol Abuse*, 29, 19-53.
- AVA & AGENDA 2017. The core components of a gender sensitive service for women experiencing multiple disadvantage: a review of the literature. London: Agenda: Alliance for Women and Girls At Risk.
- AVA (AGAINST VIOLENCE AND ABUSE) PROJECT 2013. Complicated Matters: a toolkit addressing domestic and sexual violence, substance use and mental ill-health. London: AVA Project.
- BARDSLEY, D., CALDER, A., CURRIE, E., GRAY, L., HILL, S., LEYLAND, A., MONTAGU, I., ROONEY, K. & TERJE, A. 2017. The Scottish Health Survey: 2016 edition. Edinburgh: Scottish Government.
- BAWOR, M., DENNIS, B. B., BHALERAO, A., PLATER, C., WORSTER, A., VARENBUT, M., DAITER, J., MARSH, D. C., DESAI, D., STEINER, M., ANGLIN, R., PARE, G., THABANE, L. & SAMAN, Z. 2015. Sex differences in outcomes of methadone maintenance treatment for opioid use disorder: a systematic review and meta-analysis. *CMAJ Open*, 3, E344-E351.
- BERNSTEIN, J., DERRINGTON, T. M., BELANOFF, C., CABRAL, H. J., BABAKHANLOU-CHASE, H., DIOP, H., EVANS, S. R., JACOBS, H. & KOTELCHUCK, M. 2015. Treatment outcomes for substance use disorder among women of reproductive age in Massachusetts: A population-based approach. *Drug and alcohol dependence*, 0, 151-159.
- BIRD, S. M., HUTCHINSON, S. J. & GOLDBERG, D. J. 2003. Drug-related deaths by region, sex, and age group per 100 injecting drug users in Scotland, 2000-2013. *The Lancet*, 362, 941-944.
- BRENTARI, C. H. H., B.; TRIPODI, S. 2011. Attention to Women Drug Users In Europe. *Democracy, Cities, and Drugs II*. IREFREA and European Union.
- BROADHURST, K. & MASON, C. 2013. Maternal outcasts: raising the profile of women who are vulnerable to successive, compulsory removals of their children – a plea for preventative action. *Journal of Social Welfare and Family Law*, 35, 291-304.
- CAMPBELL, N. & HERZBERG, D. 2017. Gender and Critical Drug Studies: An Introduction and an Invitation. *Contemporary Drug Problems*, 44, 251-264.
- CLARK, M. 2015. The gender dimension of non-medical use of prescription drugs in Europe and the Mediterranean region. Pompidou Group and the Council of Europe.
- DICKIE, E., ARNOT, J. & REID, G. 2017. Drug-related deaths rapid evidence review: keeping people safe. Edinburgh: NHS Health Scotland.
- ENGENDER 2015. A widening gap - women and welfare reform. Edinburgh: Engender, Scottish Refugee Council, Scottish Women's Aid, Close the Gap, and Scottish Council of Voluntary Organisations.
- EUROPEAN INSTITUTE FOR GENDER EQUALITY. 2017. *Gender mainstreaming* [Online]. Available: <http://eige.europa.eu/gender-mainstreaming/what-is-gender-mainstreaming>.
- EUROPEAN MONITORING CENTRE FOR DRUGS AND DRUG ADDICTION 2006. Annual report 2006. Selected issue 2: a gender perspective on drug use and responding to drug problems. Luxembourg: Publications Office of the European Union.
- EUROPEAN MONITORING CENTRE FOR DRUGS AND DRUG ADDICTION 2012. Preventing opioid overdoses in Europe: A critical assessment of known risk factors and preventative measures. Luxembourg: Publications Office of the European Union.
- EUROPEAN MONITORING CENTRE FOR DRUGS AND DRUG ADDICTION 2017a. Women who use drugs: Issues, needs, responses, challenges and implications for policy and practice. *Background paper for Health and social responses to drug problems: a European guide*. Luxembourg: Publications Office of the European Union.
- EUROPEAN MONITORING CENTRE FOR DRUGS AND DRUG ADDICTION. 2017b. *Women and gender issues in drug use* [Online]. Available: www.emcdda.europa.eu/topics/women.

- EVANS, E., KELLEGHAN, A., LI, L., MIN, J., HUANG, D., URADA, D., HSER, Y. I. & NOSYK, B. 2015. Gender differences in mortality among treated opioid dependent patients. *Drug Alcohol Depend*, 155, 228-35.
- GAO, L., DIMITROPOULOU, P., ROBERTSON, J. R., MCTAGGART, S., BENNIE, M. & BIRD, S. M. 2016. Risk-factors for methadone-specific deaths in Scotland's methadone-prescription clients between 2009 and 2013*. *Drug & Alcohol Dependence*, 167, 214-223.
- GJERSING, L. & BRETTEVILLE-JENSEN, A. L. 2014. Gender differences in mortality and risk factors in a 13-year cohort study of street-recruited injecting drug users. *BMC Public Health*, 14, 440-440.
- GLONTI, K., GORDEEV, V. S., GORYAKIN, Y., REEVES, A., STUCKLER, D., MCKEE, M. & ROBERTS, B. 2015. A Systematic Review on Health Resilience to Economic Crises. *PLOS ONE*, 10, e0123117.
- GREENFIELD, S. F., BACK, S. E., LAWSON, K. & BRADY, K. T. 2010. Substance Abuse in Women. *The Psychiatric clinics of North America*, 33, 339-355.
- HANKINS, C. 2008. Sex, drugs, and gender? High time for lived experience to inform action. *International Journal of Drug Policy*, 19, 95-96.
- HEALTH PROTECTION SCOTLAND, UNIVERSITY OF THE WEST OF SCOTLAND, GLASGOW CALEDONIAN UNIVERSITY, AND THE WEST OF SCOTLAND SPECIALIST VIROLOGY CENTRE, 2017a. The Needle Exchange Surveillance Initiative: bespoke data request.
- HEALTH PROTECTION SCOTLAND, UNIVERSITY OF THE WEST OF SCOTLAND, GLASGOW CALEDONIAN UNIVERSITY, AND THE WEST OF SCOTLAND SPECIALIST VIROLOGY CENTRE, 2017b. The Needle Exchange Surveillance Initiative: Prevalence of blood-borne viruses and injecting risk behaviours among people who inject drugs attending injecting equipment provision services in Scotland, 2008-09 to 2015-16. Glasgow: Health Protection Scotland.
- INFORMATION SERVICES DIVISION SCOTLAND 2014. Estimating the national and local prevalence of problem drug use in Scotland 2012/13. Edinburgh: NHS National Services Scotland.
- INFORMATION SERVICES DIVISION SCOTLAND 2016a. The National Drug-Related Deaths Database (Scotland) Report: Analysis of Deaths occurring in 2014. Edinburgh: NHS National Services Scotland.
- INFORMATION SERVICES DIVISION SCOTLAND 2016b. The National Drug-Related Deaths Database (Scotland) Report: Analysis of Deaths occurring in 2014. Data Tables. Edinburgh: Information Services Division Scotland.
- INFORMATION SERVICES DIVISION SCOTLAND. 2017a. *Drug-related Hospital Statistics Dashboard* [Online]. Available: <https://www.isdscotland.org/Health-Topics/Drugs-and-Alcohol-Misuse/Drugs-Misuse/SDMD-Dashboard/> [Accessed 16/10/2017].
- INFORMATION SERVICES DIVISION SCOTLAND. 2017b. *Heart disease: incidence* [Online]. Available: <http://www.isdscotland.org/Health-Topics/Heart-Disease/Topic-Areas/Incidence/> [Accessed 18/12/2017].
- INFORMATION SERVICES DIVISION SCOTLAND 2017c. National Naloxone Programme Scotland: Monitoring Report 2016/17. Edinburgh: Information Services Division, NHS National Services Scotland.
- INFORMATION SERVICES DIVISION SCOTLAND. 2017d. *Scottish Drugs Misuse Database Dashboard* [Online]. Available: <https://www.isdscotland.org/Health-Topics/Drugs-and-Alcohol-Misuse/Drugs-Misuse/SDMD-Dashboard/> [Accessed 16/10/2017].
- INFORMATION SERVICES DIVISION SCOTLAND 2018a. Scottish Drugs Misuse Database: bespoke data request.
- INFORMATION SERVICES DIVISION SCOTLAND 2018b. The National Drug-Related Deaths Database (Scotland): bespoke data request.
- INTERNATIONAL NARCOTICS CONTROL BOARD 2017. Report 2016: Chapter 1. Women and drugs. Vienna: United Nations Office.
- JOHNSON, C. F., BARNSDALE, L.R., MCAULEY, A. 2016. Investigating the role of benzodiazepines in drug-related mortality – a systematic review undertaken on behalf of the Scottish National Forum on Drug-Related Deaths. Edinburgh: NHS Health Scotland.
- KENNY, K. S., BARRINGTON, C. & GREEN, S. L. 2015. "I felt for a long time like everything beautiful in me had been taken out": Women's suffering, remembering, and survival following the loss of child custody. *International Journal of Drug Policy*, 26, 1158-1166.
- KING, R., BIRD, S. M., OVERSTALL, A., HAY, G. & HUTCHINSON, S. J. 2013. Injecting drug users in Scotland, 2006: Listing, number, demography, and opiate-related death-rates. *Addiction Research & Theory*, 21, 235-246.

- LUCHENSKI, S. A. M., N.; ALDRIDGE, R.; HAYWARD, A.; STORY, A.; PERRI, P.; WITHERS, J.; CLINT, S.; FITZPATRICK, S.; HEWETT, N. 2017. What works in inclusion health: overview of effective interventions for marginalised and excluded populations. *Lancet*, Online first.
- MATHERS, BRADLEY M., DEGENHARDT, L., BUCELLO, C., LEMON, J., WIESSING, L. & HICKMAN, M. 2013. Mortality among people who inject drugs: a systematic review and meta-analysis. *Bulletin of the World Health Organization*, 91, 102-123.
- MATHESON, C., LIDDELL, D., HAMILTON, E. & WALLACE, J. 2017. Older People with Drug Problems in Scotland: A Mixed Methods Study Exploring Health and Social Support Needs. Glasgow: Scottish Drugs Forum.
- MCAULEY, A. & BEST, D. 2012. A quantitative exploration of risk factors associated with drug-related deaths involving heroin, alcohol or methadone in the West of Scotland. *Addiction Research & Theory*, 20, 153-161.
- MCAULEY, A. & MILLAR, T. 2017. TECHNICAL REPORT: EMCDDA assessment of drug-induced death data and contextual information in selected countries. *In: EUROPEAN MONITORING CENTRE FOR DRUGS AND DRUG ADDICTION* (ed.). Luxembourg: Publications Office of the European Union.
- MERRALL, E. L. C., BIRD, S. M. & HUTCHINSON, S. J. 2012. Mortality of those who attended drug services in Scotland 1996–2006: Record-linkage study. *The International Journal on Drug Policy*, 23, 24-32.
- MINTON, J. P., J.; LEWSEY, J.; BOUTTELL, J.; MCCARTNEY, G. 2017. Drug-related deaths in Scotland. *Open Science Framework*.
- NATIONAL RECORDS OF SCOTLAND 2017a. Drug-related deaths in Scotland in 2016. Edinburgh: NRS.
- NATIONAL RECORDS OF SCOTLAND 2017b. Vital Events Reference Tables 2016. Edinburgh: NRS.
- NEALE, J. 2004. Gender and Illicit Drug Use. *The British Journal of Social Work*, 34, 851-870.
- NEALE, J., NETTLETON, S. & PICKERING, L. 2014. Gender sameness and difference in recovery from heroin dependence: a qualitative exploration. *Int J Drug Policy*, 25, 3-12.
- NHS HEALTH SCOTLAND 2016. Pulling in different directions? The impact of economic recovery and continued changes to social security on health and health inequalities in Scotland. Edinburgh: NHS Health Scotland.
- NHS HEALTH SCOTLAND 2017. Inequality briefings: income, wealth, and poverty. Edinburgh: NHS Health Scotland.
- OFFICE FOR NATIONAL STATISTICS 2017. Statistical bulletin: Deaths related to drug poisoning in England and Wales: 2016 registrations. London: Office for National Statistics.
- ONYEKA, I. N., BEYNON, C. M., HANNILA, M.-L., TIIHONEN, J., FÖHR, J., TUOMOLA, P., KUIKANMÄKI, O., TASA, N., PAASOLAINEN, M. & KAUKANEN, J. 2014. Patterns and 14-year trends in mortality among illicit drug users in Finland: The HUUTI study. *International Journal of Drug Policy*, 25, 1047-1053.
- PARMAR, D., STAVROPOULOU, C. & IOANNIDIS, J. P. A. 2016. Health outcomes during the 2008 financial crisis in Europe: systematic literature review. *BMJ*, 354.
- PELISSIER, B. & JONES, N. 2005. A Review of Gender Differences Among Substance Abusers. *Crime & Delinquency*, 51, 343-372.
- PIERCE, M., BIRD, S. M., HICKMAN, M., MARSDEN, J., DUNN, G. & JONES, A. 2016. Impact of treatment for opioid dependence on fatal drug-related poisoning: a national cohort study in England. 111, 298-308.
- PIERCE, M., BIRD, S. M., HICKMAN, M. & MILLAR, T. 2015. National record linkage study of mortality for a large cohort of opioid users ascertained by drug treatment or criminal justice sources in England, 2005-2009. *Drug Alcohol Depend*, 146, 17-23.
- PRISON REFORM TRUST 2017. Why focus on reducing women's imprisonment in Scotland? London: Prison Reform Trust.
- PUBLIC HEALTH ENGLAND 2017. Understanding and preventing drug-related deaths: the report of a national expert working group to investigate drug-related deaths in England. London: Public Health England.
- RUBERY, J. 2015. Austerity, the Public Sector and the Threat to Gender Equality - Geary Lecture 2014. *The Economic and Social Review; Vol 46, No 1, Spring (2015): Incl. Policy Papers from the Financing SMEs in Recovery Conference (Dublin, 26 September 2014)*.
- RUSSELL, L. 2018. Personal communication.
- SCOTTISH DRUGS FORUM 2014. Women and addiction treatment: barriers and opportunities. Glasgow: SDF.
- SCOTTISH DRUGS FORUM 2016. Staying alive in Scotland: strategies to combat drug-related deaths. Glasgow: Scottish Drugs Forum, Hepatitis Scotland, and the Scottish Government.

- SCOTTISH DRUGS FORUM 2017. Older People with Drug Problems in Scotland: addressing the needs of an ageing population. Glasgow: Scottish Drugs Forum.
- SCOTTISH GOVERNMENT 2013. The gender impact of welfare reform. Edinburgh: Scottish Government.
- SCOTTISH GOVERNMENT 2016. Scottish Crime and Justice Survey 2014/15: drug use. Edinburgh: Scottish Government.
- SCOTTISH GOVERNMENT 2017. Children's Social Work Statistics Scotland 2016/17. Edinburgh: Scottish Government.
- SCOTTISH PRISONS SERVICE 2016. Women in Custody 2015. Edinburgh: Scottish Prisons Service.
- SCOTTISH PUBLIC HEALTH NETWORK 2013. UK welfare reform: final guidance for NHS Boards in Scotland on mitigating action. Glasgow: NHS Health Scotland.
- SCOTTISH PUBLIC HEALTH OBSERVATORY. 2017a. *Drug misuse: availability and prevalence* [Online]. Available: <http://www.scotpho.org.uk/behaviour/drugs/data/availability-and-prevalence/> [Accessed 12/12/2017].
- SCOTTISH PUBLIC HEALTH OBSERVATORY. 2017b. *Chronic Obstructive Pulmonary Disease: data* [Online]. Available: <http://www.scotpho.org.uk/health-wellbeing-and-disease/chronic-obstructive-pulmonary-disease-copd/data/data-introduction/> [Accessed 18/12/2017].
- SCOTTISH PUBLIC HEALTH OBSERVATORY 2017c. Unpublished work: analysis of Scottish Health Survey data on mental health, household income, and welfare benefit receipt.
- SCOTTISH PUBLIC HEALTH OBSERVATORY. 2018. *Mental health: adults and mental health problems* [Online]. Available: <http://www.scotpho.org.uk/health-wellbeing-and-disease/mental-health/data/adult-and-mental-health-problems/> [Accessed 14/02/2018].
- SHAND, F. L., DEGENHARDT, L., SLADE, T. & NELSON, E. C. 2011. Sex differences amongst dependent heroin users: histories, clinical characteristics and predictors of other substance dependence. *Addict Behav*, 36, 27-36.
- SIMPSON, M. & MCNULTY, J. 2008. Different needs: Women's drug use and treatment in the UK. *International Journal of Drug Policy*, 19, 169-175.
- TAPLIN, S. & MATTICK, R. P. 2015. The nature and extent of child protection involvement among heroin-using mothers in treatment: high rates of reports, removals at birth and children in care. *Drug Alcohol Rev*, 34, 31-7.
- TUCHMAN, E. 2010. Women and addiction: the importance of gender issues in substance abuse research. *J Addict Dis*, 29, 127-38.
- UNITED NATIONS INTERNATIONAL CRIME AND JUSTICE RESEARCH INSTITUTE 2015. Promoting a Gender Responsive Approach to Addiction. Turin: UNICRI.
- WALL-WIELER, E., ROOS, L.L., BOLTON, J., BROWNELL, M., NICKEL, N. & CHATEAU, D. 2017. Maternal Mental Health after Custody Loss and Death of a Child: A Retrospective Cohort Study Using Linkable Administrative Data. *The Canadian Journal of Psychiatry*, 0706743717738494.
- WINCUP, E. 2016. Gender, recovery and contemporary UK drug policy. *Drugs and Alcohol Today*, 16, 39-48.

Appendix 1. Literature search strategy.

Search undertaken by Scottish Government Library Services, as follows:

Context: Research project on the increase in drug related deaths for women in Scotland in recent years.

Question: What factors affect the risk of harms associated with problem drug use - in particular, drug-related deaths - among women compared to men?

Inclusion criteria:

- Systematic reviews published since 2006
- High income countries only
- Population of interest - women who use drugs, to include problem use of prescribed or illicit drugs, but not including alcohol use in isolation
- Comparator - men who use drugs
- Outcomes - harms relating to problem drug use, including overdose and death

Terms used:

- Women/female
- Drugs/substances
- Use/misuse/abuse/dependence
- Death/mortality/morbidity/harms/adverse events

Databases

- Knowledge & Evidence (KandE)
- IDOX
- NHS Knowledge Network
- ProQuest
- Web of Science

Appendix 2. Stakeholder summary.

Staff from drug and alcohol services, and the third sector	
Stakeholder description	Region of Scotland
Academic general practitioner	East
Service manager, drug and alcohol service	East
Team leader, addictions clinic	North
Senior clinical staff member, drug and alcohol service	West
Third sector professional (children and families focus)	East
GP and allied health professional manager, homelessness service (2 participants)	East
Injecting equipment provision outlet staff – focus group (11 participants)	Various
Third sector advocacy organization staff – focus group (8 participants)	National remit
Analytical and academic staff	
Analyst (local role)	
Analyst (national role)	
Analyst (national role)/academic (mixed methods)	
Clinical lead (national analytical role)	
Academic (primarily qualitative)	
Academic (primarily qualitative)	
Academic (quantitative)	
Academic (Toxicology)	
Group of academics: existing community of practice (primarily qualitative; 4 participants)	

Appendix 3: Example topic guide for interview

Introductory briefing:

The Scottish Government Substance Misuse Unit are currently undertaking a rapid scoping project regarding the rise in drug-related deaths amongst women in Scotland over recent years.

As you may already be aware, although men still account for the majority of DRDs, the number of deaths among women have increased to a greater extent in recent years than deaths among men.

For instance, annual average number of deaths increased 169% among women between 2002-2006 and 2012-2016, compared to a 60% increase among men.

As part of the information gathering for this project, we are aiming to seek insights into possible explanations for this trend from key professional stakeholders – hence this conversation.

At this stage, this project is primarily for internal information gathering purposes, though there is a possibility that the findings from the project may be included in future Scottish Government publications. The conversations will not be audio-recorded but notes will be taken.

- *check content to proceed*

What is your preference as to how your input will be used?

- Named attribution of any direct quotations
- General attribution of any direct quotations to your professional group
- Informing the synthesis with no direct quotations.

General:

Could you describe your role within your organisation?

Understanding gender aspects of drug-related deaths:

In the context of the overall rise in DRDs, are there any factors that you think might be particularly contributing to a greater rise in DRDs among women in recent years?

Do you think there are particular/distinct circumstances that have led to the rise in reported female DRDs?

In your experience, what are the gender specific risks that can lead to DRDs?

Aim to discuss the following hypotheses with stakeholder during the course of the conversation, with a focus on changes in recent years that might explain the trend observed:

- Patterns of drug use amongst women, including role of prescribed drugs
- Potential physiological differences affecting dependence and relapse
- Engagement with services
- Role of parenthood e.g. child protection concerns, child care
- Relationships and gender-based violence affecting engagement with services and/or patterns of substance use
- Differences in social support and networks, including stigma
- Concurrent mental and physical health conditions (*comorbidity*)
- Wider life circumstances, including housing status and welfare benefits
- Any other explanations not mentioned here

What changes in practice and policy do you think would help address the problems that we've discussed?

- *May want to revisit hypotheses above as prompts/structure*

Can you provide some examples of best practice in this area (e.g. organisations, interventions etc.)?

Snowballing and follow-up

Can you recommend any other stakeholders that we should speak to?

If we have further questions during this project, would you be willing to have a follow-up conversation?

Concluding

Thank stakeholder for participation

Note that we will be in touch in due course to update them on the project

Reminder of contact details if any questions

Appendix 4. Additional tables and figures

Table A1. Comparison of numbers of drug-related deaths using the standard definition and consistent series, 2000-2016

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Drug-related deaths: standard definition	292	332	382	317	356	336	421	455	574	545	485	584	581	527	614	706	867
<i>of which:</i>																	
Male	239	267	321	257	289	259	333	393	461	413	363	429	416	393	453	484	592
Female	53	66	61	62	67	77	87	62	113	132	122	155	165	134	161	222	275
Drug-related deaths: consistent series	293	339	388	330	365	346	430	474	590	570	512	606	604	557	620	707	868
<i>of which:</i>																	
Male	239	270	324	263	291	265	340	399	471	426	379	441	431	412	457	484	593
Female	54	70	64	69	74	81	89	75	119	144	133	165	173	145	163	223	275
'Extra' deaths counted in the consistent series	1	7	6	13	9	10	9	19	16	25	27	22	23	30	6	1	1
<i>of which:</i>																	
Male	0	3	3	6	2	6	7	6	10	13	16	12	15	19	4	0	1
Female	1	4	3	7	7	4	2	13	6	12	11	10	8	11	2	1	0
Percentage increase in annual average number of deaths between 2002-06 and 2012-16																	
Standard definition																	
Male	60.2																
Female	170.3																
Consistent series																	
Male	60.3																
Female	159.7																

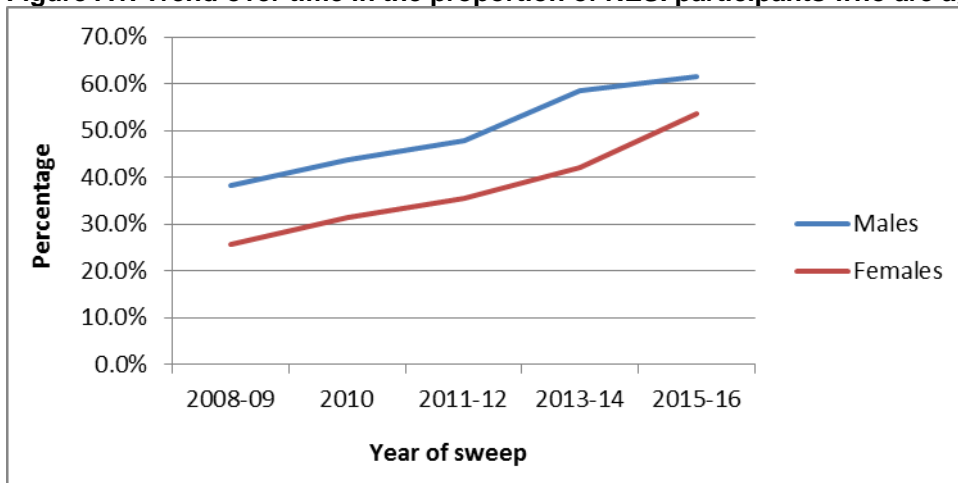
Source: National Records of Scotland. Broadly speaking, the standard definition counts deaths on the basis of the drugs at the time of death, whereas the consistent series counts death on the basis of the classification of the drugs at the end of the latest year which is covered by the publication (in this case 2016). See (National Records of Scotland, 2017a) for more detail.

Table A2. Number of drug-related deaths between 2011 and 2016 by underlying cause of death and gender, using the NRS 'new' coding rules as applied from 2011 onwards.

Year	Cause of death category (ICD-10 code)											
	Drug abuse (F11-F16, F19)		Accidental poisoning (X40-X44)		Intentional self-poisoning (X60-X64)		Assault by drugs, etc (X85)		Undetermined intent (Y10-Y14)		All	
	n	%	n	%	n	%	n	%	n	%	n	%
Female												
2011	3	1.9	77	49.7	16	10.3	0	0.0	59	38.1	155	100.0
2012	7	4.2	85	51.5	34	20.6	0	0.0	39	23.6	165	100.0
2013	3	2.2	88	65.7	17	12.7	0	0.0	26	19.4	134	100.0
2014	8	5.0	111	68.9	20	12.4	0	0.0	22	13.7	161	100.0
2015	16	7.2	160	72.1	23	10.4	0	0.0	23	10.4	222	100.0
2016	9	3.3	213	77.5	30	10.9	0	0.0	23	8.4	275	100.0
Male												
2011	9	2.1	269	62.7	20	4.7	0	0.0	131	30.5	429	100.0
2012	19	4.6	280	67.3	31	7.5	0	0.0	86	20.7	416	100.0
2013	19	4.8	278	70.7	33	8.4	1	0.3	62	15.8	393	100.0
2014	24	5.3	360	79.5	25	5.5	0	0.0	44	9.7	453	100.0
2015	33	6.8	393	81.2	31	6.4	0	0.0	27	5.6	484	100.0
2016	23	3.9	516	87.2	18	3.0	0	0.0	35	5.9	592	100.0

Source: National Records for Scotland (bespoke request). For more information on coding rules applied to the underlying cause of death, see (National Records of Scotland, 2017a).

Figure A1. Trend over time in the proportion of NESI participants who are aged >35 years, by gender.



Source: Health Protection Scotland, University of the West of Scotland, Glasgow Caledonian University, and the West of Scotland Specialist Virology Centre: Needle Exchange Surveillance Initiative (bespoke request). Note different age category threshold to Scottish Drugs Misuse Database.

How to access background or source data

The data collected for this social research publication:

cannot be made available by Scottish Government for further analysis as Scottish Government is not the data controller.



© Crown copyright 2018

You may re-use this information (excluding logos and images) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/> or e-mail: psi@nationalarchives.gsi.gov.uk.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

The views expressed in this report are those of the researcher and do not necessarily represent those of the Scottish Government or Scottish Ministers.

This document is also available from our website at www.gov.scot.
ISBN: 978-1-78781-012-9

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

Produced for
the Scottish Government
by APS Group Scotland
PPDAS432886 (06/18)
Published by
the Scottish Government,
June 2018



Social Research series
ISSN 2045-6964
ISBN 978-1-78781-012-9

Web and Print Publication
www.gov.scot/socialresearch

PPDAS432886 (06/18)