

Service responses for older high-risk drug users: a literature review

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August 2016**

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EXECUTIVE SUMMARY

Background and aims of the report

This report identifies and reviews the academic literature on service responses for older high-risk drug users. It aims to identify the key literature on the older high-risk drug user, distil from this literature the main characteristics of this population and their needs, and provide an account of the service responses to these individuals to inform planning and policy for Scotland's older drug using population.

Who is the older drug user?

Following convention, this review defines the older drug user as one who is 35 years old or over; however, much research in this area focuses on those 50 years and over. The characteristics and trajectories of older high-risk drug users demonstrate the distinctiveness of this group from their younger counterparts. Even within this older population, there is difference and diversity in experiences of drug use and the ability to navigate towards and achieve recovery.

Social isolation, shame and stigma

Social isolation and exclusion, shame and stigma are factors that older high-risk drug users may experience more frequently or acutely than younger counterparts, raising particular challenges and barriers to accessing service responses.

Need for age specific services

There is a requirement to specifically design or adapt services – either existing or bespoke – in order to effectively engage with older high-risk drug users.

Co-presence of physical and mental health issues

Older high-risk drug users may have distinct mental health issues compared to younger drug users, which include having had, generally, longer-term experience of such issues, multiple forms of mental ill-health and negative experiences of services that create distinct obstacles for engaging this group. Additionally, the use of illicit substances is also likely to have an adverse impact on their physical health. Such issues must be considered when devising and delivering effective service responses to tackle the range of issues in a holistic manner.

Complexity of needs and characteristics of older drug users

Older drug users have accumulated a range of health, social, economic challenges and patterns of behaviour and coping that constitute them as a highly complex group. The accurate diagnosis of older high-risk drug use, and the various health issues associated with this, will depend upon increased awareness and training of professionals and practitioners to support older high-risk drug users.

Evidence gaps and implications for policy and practice

The following may be required in order to inform future policy responses to older high-risk drug users:

- There are very few models of effective service responses – if any – that can be unproblematically transposed to the Scottish context in their existing form.
- Whilst an awareness of the heterogeneity of older high-risk drug users has emerged, further work is required to fully understand the intersecting issues of gender, geography, social class, education and other social factors that may be important in understanding the needs of this population and their engagement with treatment and service responses.
- The issue of early versus late onset of high-risk drug use in older people also remains unclear. Further evidence of this in the Scottish context would be useful and help to inform evidence-based responses.
- The evidence on the awareness of the range of professionals and practitioners on the issue of older high-risk drug users and the challenges they face remains limited, and further work on this in the Scottish context would be welcome. Understanding the views and perspectives of professionals and practitioners who engage with such groups will be invaluable to devising effective and bespoke services to meet the needs of older high-risk drug users.

1. INTRODUCTION

1.1 Background, aims and objectives

Many of those who first encountered illicit drugs in Scotland in the 1980s now face significant challenges in relation to their health and well-being. The National Health Service (NHS) in Scotland reports, based on data from the Scottish Drugs Misuse Database (SDMD), that since 2006/07 an increasing proportion of individuals from older age groups have been assessed for specialist drug treatment each year. In 2006/07 just over half (51%) of those assessed were aged 30 and over, compared with two-thirds (66%) in 2012/13. Likewise, the percentage of individuals aged 40 and over assessed for specialist drug treatment increased from 15% in 2006/07 to 26% in 2012/13 (NHS Information Services Division, 2014).¹

Recognising these trends, this report identifies and reviews the academic literature on service responses for older high-risk drug users. Such an approach is both timely and worthwhile. 'Classic' research suggested that individuals 'mature out' of drug use as they progress towards and through their thirties (Winick, 1962). This recent evidence from the SDMD, however, indicates that high-risk drug use can persist for some people throughout their thirties and beyond, with negative effects on health and well-being. This is especially concerning because, like many developed European nations, Scotland has an ageing population. In fact, while Scotland's projected population growth is less than that of the rest of the United Kingdom (UK), its age structure means it is projected to age more rapidly than its UK counterparts.² Identifying and reviewing service responses for older high-risk drug users, therefore, will be an important pre-cursor to establishing effective policy responses and treatment approaches in Scotland.

The aims of this review are to:

1. Identify key literature from a range of disciplines (health, sociology, drug and addiction studies, criminology) on the older high-risk drug user, focusing on Scotland where possible

¹ Such increases have been experienced, and are forecast to continue in other jurisdictions. Increases in the numbers of older drug users have been forecasted in the United States, based on available data and modelling and projection methods (Colliver et al, 2006). This research highlights the requirement for improved knowledge of the biomedical and psychosocial effects of non-medical drug use on ageing and elderly individuals, and the necessary changes to planning for this increasing number of older drug users.

² The proportion of Scotland's population which is of pensionable age is projected to increase by 2.9% between 2010 and 2035, compared with a 1.7% rise for the UK. See <http://www.scottish.parliament.uk/parliamentarybusiness/CurrentCommittees/59613.aspx#pop>.

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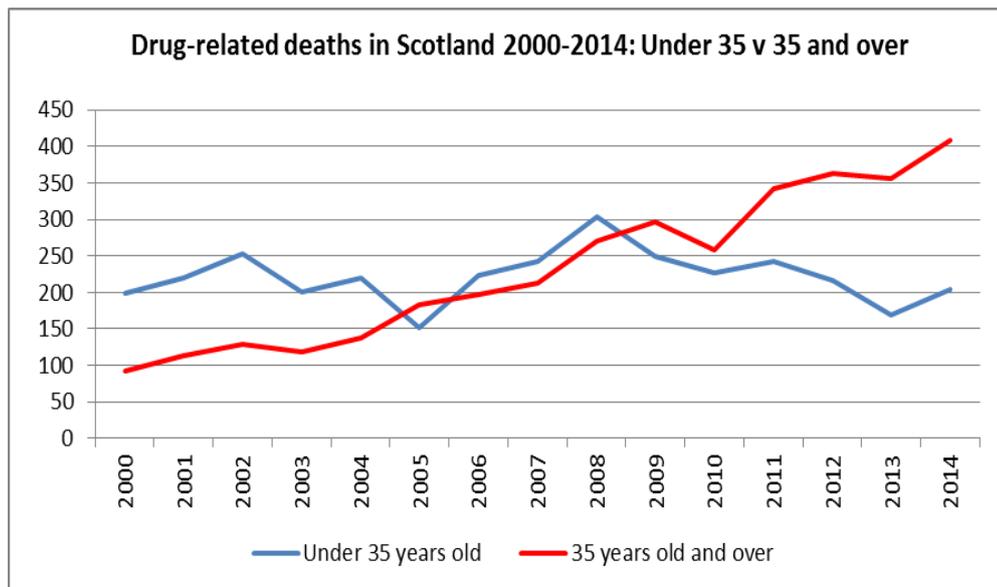
2. Distil from this literature the main characteristics of older high-risk drug users and their needs; and
3. Provide an account of the service responses to older high-risk drug users in a format that can inform evidence-based planning and policy for Scotland's older drug using population.

1.2 Defining the problem

There is no standard definition of an older high-risk drug user. For the purposes of this review, drawing upon the definition used by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), older high-risk drug users are considered as those aged 35 or over whose recurrent drug use is causing actual harms (negative consequences) to the person (including dependence, but also other health, psychological or social problems), or is placing the person at a high probability/risk of suffering such harms. It is recognised that this definition is at the lower end of the age range at which drug users can be considered as 'older'. This threshold was chosen, however, based upon the empirical evidence on the consequences of high-risk drug use on health and well-being, including: the lower life expectancy of people in Scotland compared to elsewhere in Europe; the premature metabolic ageing of high-risk drug users; and the data on drug-related deaths in Scotland.

The available evidence indicates that older drug users in Scotland are likely to encounter negative life outcomes due to their drug use. Statistics published on drug-related deaths in Scotland challenge the characterisation that high-risk drug users are young. Drug-related deaths in Scotland are rising, and older people are increasingly accounting for a greater proportion of these deaths. In 2014 two-thirds of drug-related deaths involved people over the aged 35 and over, rising from 93 deaths in 2000 to 409 in 2014 (National Records of Scotland, 2015). A breakdown of this data is provided in the chart below.

Chart 1: Drug-related deaths in Scotland 2000-2014, under 35 years old versus 35 years old and over



Moreover, this is not a problem that only affects men: women accounted for 26% of deaths of older-drug users in 2014, compared to only 18% in 2000. The 2013 annual report from the National Forum on Drug-related Deaths in Scotland (2014) highlighted that older drug users feature most prominently in drug-related fatalities in Scotland in part due to the high prevalence of physical and mental health problems that exist in such populations, thus increasing their vulnerability. It also stated that older, socially isolated drug users who are not engaged with treatment and recovery services seem at highest risk of drug-related deaths (National Forum on Drug-related Deaths in Scotland, 2014). It is in this context that this report seeks to review the available literature to identify effective service responses for older high-risk drug users.

2. METHODOLOGY

2.1 Aim

This review of service responses for older high-risk drug users locates and appraises available evidence relating to this subject to provide informative and evidence-based findings.

2.2 Search strategy and data sources

Given the working hypothesis that the literature on service responses for older problem drug users was likely to be relatively limited, the search strategy was designed to be sensitive. This meant that a deep variety of sources were explored via a range of keywords, used in various combinations. The retrieval of relevant literatures, studies, and research was undertaken as follows:

1. Keyword searches of electronic databases. These keywords include:
 - a. Drug OR substance OR narcotic OR opioid OR opiate OR heroin OR methadone OR crack OR cocaine OR illicit OR inject
AND
 - b. Older OR elderly OR age OR aged OR ageing OR mature OR senior OR middle-aged OR geriatric

A wide range of sources was consulted given the inter-disciplinary nature of academic research on the use of illicit drugs. This included: Social Care Online, Web of Science, NIDA International Drug Abuse Research Abstract Database, and various products accessed through Proquest (complete list in Appendix A).

Backward searches were conducted of publications identified as relevant to the research study by interrogating the available bibliographies and lists of references. No further manual searching of other materials was undertaken due to resource limitations.

2.3 Criteria for inclusion

To be included in the list of studies suitable for review, each study fulfilled the following criteria:

- Studies must include a reference to: older drug users (or variation thereof) and service responses (including support, interventions, programmes or similar)

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- Studies can be original primary research, analyse secondary datasets, or take the form of a systematic review/literature review of existing original research
- Published and unpublished studies will be included, including any of the relevant grey literatures from government, research agencies/bodies and third-sector organisations
- There will be no restriction by date of study/publication
- There will be no geographic limitations for inclusion (i.e. studies could have been conducted/research published in any country or jurisdiction)
- Due to resource limitations, the search strategy was limited to research published in the English language only
- Quality: restriction of the search to databases listed above limits outputs to those involving professional researchers, agencies or organisations. Please also see the note in the following section on evidence quality.

2.4 Note on 'quality' of evidence

This literature review adopts an approach to evidence quality that presents relevant information about studies cited to give the reader an understanding of the context, strengths and limitations of methods and findings and thus the ability to assess the relevance of the study's findings for present considerations. In this review, detail is included about the type of research design (without unjustifiably privileging any particular approach) and highlights any potential challenges in relation to methodological limitations or concerns. The studies in this review include the following categories of design:

- a. Systematic review
- b. Randomised, controlled, double-blind trials
- c. Quasi-experimental studies (experiments without randomisation)
- d. Controlled observational studies (comparison of outcomes between participants who have received an intervention and those who have not)
- e. Qualitative case studies/interviews/survey/other data without a control group
- f. Expert opinion or literature review.

The most prevalent research designs were categories e. (32) and f. (24), with smaller numbers featuring controlled observational studies (2) or systematic review (1). The predominance of more qualitative work and literature reviews partly reflects the fact that this particular sub-area (the older high-

risk drug user) is still developing its research base, and qualitative exploration is the appropriate initial phase and emphasis of work.³ However, this is not to say that existing work is of low quality or of a lesser quality than other methods. While randomised controlled trials (RCTs) often are treated as a form of ‘gold standard’ in medical research, a well-designed, large-scale RCT may in fact offer less informative evidence for practice than very small-scale qualitative research; for example where the RCT study population is not easily extrapolated to the population of interest (because of distinct regional, ethnic, class, gender, or other characteristics). The provision of detail on research design is therefore indicative, and this review seeks where possible to provide relevant contextual information when considering the strengths and weaknesses of particular studies.

2.5 Results

Following the removal of duplicates, the total number of titles that were retrieved and scanned for relevance to the inclusion and exclusion criteria was 431. The initial application of the inclusion and exclusion criteria, based on review of titles only, reduced this number to 254. The abstracts of these 254 studies were assessed on the basis of the inclusion and exclusion criteria. The deployment of this methodology for literature review resulted in the identification of 59 relevant studies. These 59 studies formed the core data source for this paper. The following table provides a summary of the 59 studies, and also details whether the study was an evaluation study.

³ As quoted in Pawson (2006: 50) Donald Campbell, after whom the Campbell Collaboration of systematic evidence gathering is named, remarked, “Qualitative knowledge is absolutely essential as a prerequisite foundation for quantification in any science. Without competence at the qualitative level, one’s computer printout is misleading or meaningless.”

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Table 1: Summary of studies

Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
1. An update on drug dependence in the elderly	1979	Pascarelli, EF.	f. Literature review	Secondary analysis (literature review)	United States	Not specified	Various, including multiple drug use	Techniques to improve diagnosis and treatment in hospital and medical settings
2. The elderly abuser: a challenge for the future	1979	Peppers, LG. Stover, RG.	e. Qualitative case studies etc.	Primary research (user survey)	United States	Not specified	Alcohol and drugs	Holistic treatment
3. Drug and alcohol abuse among the elderly: is being alone the key?	1983	Brown, BB. Chiang, CP.	d. Controlled observational studies	Primary research (interviews)	United States	55+	Alcohol and drugs	Implications for health and social service programs of the impact of social isolation, relationships and gender
4. Substance abuse among older adults. Treatment Improvement Protocol (TIP)	1998	Center for Substance Abuse Treatment	f. Literature review	Secondary analysis (literature review)	United States	60+	Alcohol, prescription drugs	Identification, screening, and assessment
5. Cognitive-behavioral treatment of older veterans with substance abuse problems	2000	Schonfeld, L. Dupree, LW. Dickson-Euhrmann, E. Royer, CM. McDermott, CH. Rosansky, JS. Taylor, S. Jarvik, LF.	e. Qualitative case studies etc.	Primary research (user survey)	United States	60+	Various, including multiple drug use	Cognitive-behavioral (CB) and self-management approaches
6. Substance misuse in older adults: an emerging policy priority	2001	Phillips, P. Katz, A.	f. Literature review	Secondary analysis (literature review)	United Kingdom	Discussed, not specified	Alcohol, tobacco, drugs	Targeted research to prioritise treatment services

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
7. Maturing in (or into) drug use: a life course analysis of aging drug users	2003	Boeri, MW. Sterk, C. Elifson, K.	e. Qualitative case studies etc.	Primary research (interviews)	United States	35+	Methamphetamine or heroin	Treatment and public health interventions
8. Five year alcohol and drug treatment outcomes of older adults versus middle-aged and younger adult chemical dependency patients in a managed care program	2004	Satre, DD. Mertens, JR. Areán, PA. Weisner, C.	e. Qualitative case studies etc.	Primary research (interview and case study)	United States	55-77	Alcohol and drugs	Long term treatment and adequate support following treatment
9. The DASIS report. older adults in substance abuse treatment: 2001	2004	Drug and Alcohol Services Information System	e. Qualitative case studies etc.	Primary research (patient data analysis)	United States	55+	Alcohol and drugs	Self-referral processes; criminal justice referrals
10. Characteristics of older opioid maintenance patients	2005	Lofwall, MR. Brooner, RK. Bigelow, GE. Kindbom, K. Strain, EC.	e. Qualitative case studies etc.	Primary research (interviews)	United States	50-66	Opioid use	Health service strategies aimed at facilitating the delivery of appropriate evaluation and health care
11. Older substance misusers still deserve better services – an update (Part 1)	2005	Crome, I. Bloor, R.	f. Literature review	Secondary analysis (literature review)	United Kingdom	65+	Alcohol and drugs	Designated service for older people, including discussion of residential service (inpatient and residential units), and two kinds of community service (methadone reduction and methadone maintenance)
12. Older substance misusers still deserve better diagnosis – an update (Part 2)	2005	Crome, I. Bloor, R.	f. Literature review	Secondary analysis (literature review)	Various	65+	Alcohol and drugs	Accurate medical diagnosis

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
13. Substance misuse in the older population	2005	McGrath, A. Crome, P. Crome, IB.	f. Literature review	Secondary analysis (literature review)	United Kingdom	Various	Various	Training and awareness of health practitioners
14. The DASIS report: older adults in substance abuse treatment: update, May 5, 2005	2005	Drug and Alcohol Services Information System	e. Qualitative case studies etc.	Primary research (patient data analysis)	United States	55+	Alcohol and drugs	Substance abuse treatment admissions in health care settings
15. Attempted cessation of heroin use among men approaching mid-life	2006	Mullen, K. Hammersley, R.	e. Qualitative case studies etc.	Primary research (interviews)	United Kingdom	28+	Heroin	Motivational interviewing, Relapse Prevention Therapy
16. Baby boomers drug users: career phases, social control, and social learning theory	2006	Boeri, MW. Sterk, CE. Elifson, KW.	e. Qualitative case studies etc.	Primary research (interviews)	United States	35-54	Methamphetamine or heroin	Evaluation of drug users for treatment, public health interventions, and policymaking
17. Community interventions for older adults with comorbid substance abuse: the geriatric addictions program (GAP)	2006	D'Agostino, CS. Barry, KL. Blow, FC. Podgorski, C.	e. Qualitative case studies etc.	Primary research (interviews)	United States	Unspecified (older adults)	Various	Geriatric Addictions Program indicate the need for training, service delivery changes, and research initiatives
18. Older substance misusers still deserve better treatment interventions – an update (Part 3)	2006	Crome, I. Bloor, R.	f. Literature review	Secondary analysis (literature review)	United Kingdom	55+	Alcohol and drugs (various)	Psychological approaches, behavioural and psychodynamic therapies, information-based methods, counselling, pharmacotherapy

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
19. Retention and illicit drug use among methadone patients in Israel: a gender comparison	2007	Schiff, M. Levit, S. Moreno, RC.	e. Qualitative case studies etc.	Primary research (patient data analysis)	Israel	Various (18+)	Heroin, methadone	Methadone maintenance treatment (MMT)
20. "You're nothing but a junkie": multiple experiences of stigma in an aging methadone maintenance population	2008	Conner, KO. Rosen, D.	e. Qualitative case studies etc.	Primary research (interviews)	United States	50+	Opioids/heroin	Recognition of multiple stigmas by clinicians
21. Reconceptualizing early and late onset: a life course analysis of older heroin users	2008	Boeri, MW. Sterk, CE. Elifson, KW.	e. Qualitative case studies etc.	Primary research (interviews)	United States	35+	Heroin	Treatment options, not incarceration
22. The prevalence of mental and physical health disorders among older methadone patients	2008	Rosen, D. Smith, ML. Reynolds, CF.	e. Qualitative case studies etc.	Primary research (interviews)	United States	50+	Heroin	Training of clinicians, health and mental health practitioners
23. Comparison of heroin-assisted treatment and abstinence oriented residential treatment in Switzerland based on patient characteristics	2009	Gerlich, MG. Schaaf, S. Gross, CS. Uchtenhagen, A.	e. Qualitative case studies etc.	Primary research (patient data analysis)	Switzerland	Various	Heroin	Heroin-assisted treatment and abstinence oriented residential treatment
24. Drug use and ageing: older people do take drugs!	2009	Beynon, CM.	f. Literature review	Secondary analysis (literature review)	United Kingdom	50+	Illicit drugs	Further research is needed on the epidemiological and treatment aspects of drug use in older people
25. Life situations and health of older drug addicts: a literature report	2009	Vogt I.	f. Literature review	Secondary analysis (literature review)	Germany	45+	Illicit drugs	Substitution treatment

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
26. Self reported health status, and health service contact, of illicit drug users aged 50 and over: a qualitative interview study in Merseyside, United Kingdom	2009	Benyon, CM. Roe, B. Duffy, P. Pickering, L.	e. Qualitative case studies etc.	Primary research (interviews)	UK	54+	Illicit drugs (opiates and/or crack cocaine)	Health care responses
27. Drug misuse in older people: old problems and new challenges	2010	Badrakalimuthu, V.R. Rumball, D. Wagle, A.	f. Literature review	Secondary analysis (literature review)	United Kingdom	60+	Benzodiazepines and hypnotics, opioids and cocaine, inappropriate and over-the-counter medication, poly-substance misuse	Awareness of this problem must be increased through education of the public and professionals. Social and health services should work collaboratively with the substance user through refined care pathways and produce pragmatic treatment plans

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
28. Older drug users in Scotland: professionals' views	2010	Brand, B.	e. Qualitative case studies etc.	Primary research (interviews, self-completion survey)	United Kingdom	35+	Illicit drugs, opiates, benzodiazepines etc	Careful planning; take account of issues of isolation when planning and delivering services to older drug users; greater emphasis on forming meaningful therapeutic relationships; addressing specific accommodation needs of older problem drug users; recognise the importance of relapse prevention; encourage 'new coping mechanisms'; provision of individualised services; explore innovative approaches' meet general health care needs
29. Screening and brief intervention for substance misuse among older adults: the Florida BRITE project	2010	Schonfeld, L. King-Kallimanis, BL. Duchene, DM. Etheridge, RL. Herrera, JR. Barry, KL. Lynn, N.	d. Controlled observational studies	Primary research (patient data analysis)	United States	60+	Alcohol, illicit drugs, Prescription and over-the-counter medications	Screening and brief intervention

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
30. Treatment and care for older drug users	2010	EMCDDA	f. Literature review	Secondary analysis (literature review)	Europe	Older drug users	Illicit drugs	Address the needs of ageing drug users within the framework of drug, health and social policies. Adapt existing services to an ageing drug using population
31. Older adults in methadone maintenance treatment: a review of the literature across the life span from opiate initiation to methadone maintenance treatment	2011	Doukas, N.	f. Literature review	Secondary analysis (literature review)	North America	50+	Heroin, methadone	Methadone maintenance treatment
32. 30-year trajectories of heroin and other drug use among men and women sampled from methadone treatment in California	2011	Grella, CE. Lovinger, K.	e. Qualitative case studies etc.	Primary research (interviews and longitudinal data)	United States	35+	Heroin, methadone	Early intervention to address childhood conduct problems. Methadone treatment/opiate-substitution therapy for individuals who are at high risk of relapse and overdose. Treatment interventions
33. Addiction and ageing-awareness, assessment and action	2011	Crome, IB. Crome, P. Rao, R.	f. Literature review	Secondary analysis (literature review and commentary)	United Kingdom	Older people, 50+	Legal substances and illegal drugs	Brief interventions

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
34. Characteristics and consequences of heroin use among older adults in the United States: A review of the literature, treatment implications, and recommendations for further research	2011	Rosen, D. Hunsaker, A. Albert, SM. Cornelius, JR. Reynolds, CF.	f. Literature review	Secondary analysis (literature review)	United States	50+	Heroin	Appropriate interventions and treatment for older adult heroin users will be contingent on empirical research that adequately describes mental and physical health problem
35. Illicit and nonmedical drug use among older adults: a review	2011	Wu, LT. Blazer, DG.	f. Literature review	Secondary analysis (literature review)	United States	50+	Illicit and non-medical drugs	Early identification and treatment. Further research is needed to include more diverse racial/ethnic groups, evaluate long-term outcomes, and examine effectiveness of treatments for older adults with drug use problems
36. Substance abuse treatment for older adults in private centers	2011	Rothrauff, TC. Abraham, AJ. Bride, BE. Roman, PM.	e. Qualitative case studies etc.	Primary research (interviews)	United States	65+	Alcohol, prescription drugs and illicit drugs	Preparation of treatment centres
37. Substance misuse and older people - our invisible addicts	2011	Crome, I. Rao, R.	f. Literature review	Secondary analysis (literature review)	United Kingdom	55+	Various illicit drugs	Increased awareness amongst medical and health care professionals

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
38. Systematic and narrative review of treatment for older people with substance problems	2011	Moy, I. Crome, P. Crome, I. Fisher, M.	a. Systematic review	Secondary analysis (systematic and narrative review)	United States (majority of studies)	50+	Alcohol, prescription drugs, methadone, smoking	Increased awareness, both among the medical profession and the general population, of the prevalence and importance of substance abuse and dependence in older people is a priority, to ensure better recognition, diagnosis and appropriate referral. Consideration should be given to the designated service provision of treatment programs that include older people, either separately or as part of a non-age-specific group
39. The older heroin user: the 40s and beyond	2011	Darke, S.	f. Literature review	Secondary analysis (literature review)	Various	40+	Heroin	Maturing out hypothesis lacks contemporary relevance, and health based approaches now required
40. At the sharp end: a pilot investigation into the health of older injecting drug users in the Wirral	2011	Benyon, C. Baron, L.	e. Qualitative case studies etc.	Primary research (interviews)	United Kingdom	51+	Prescription and illicit drugs	Agency based needle and syringe programmes. Health services
41. The growing problem of illicit substance abuse in the elderly: a review	2012	Taylor, MH Grossberg, GT.	f. Literature review	Secondary analysis (literature review)	United States	Various	Illicit substances	Development of screening instruments

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
42. A contextual comparison of risk behaviors among older adult drug users and harm reduction in suburban versus inner-city social environments	2012	Boeri, MW. Tyndall, BD.	e. Qualitative case studies etc.	Primary research (ethnographic fieldwork, interviews)	United States	45+	Heroin, cocaine, and/or methamphetamine	Need for the expansion of harm reduction services focused on older adult drug users who are homeless, uninsured, or socially isolated
43. Psychosocial factors in older heroin dependent patients in treatment	2012	Sidhu, H. Crome, P. Crome, IB.	e. Qualitative case studies etc.	Primary research (patient data analysis)	United Kingdom	45+	Heroin	Lack of specific guidance on treatment, training or policy for this group in the UK
44. Treatment experience and needs of older drug users in Bristol, UK	2012	Ayres, RM. Eveson, L. Ingram, J. Telfer, M.	e. Qualitative case studies etc.	Primary research (interviews/evaluation)	United Kingdom	55+	Oral substitution therapy and/or illegally bought drugs, such as heroin, crack/cocaine or benzodiazepines	Residential and community detoxification programmes may need to adapt to meet the needs of older people. Detoxification regimes may need to be much slower and better supported medically to accommodate age-related metabolic changes

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
45. Treatment outcomes for older adults who abuse substances	2012	Outlaw, FH. Marquart, JM. Roy, A. Luellen, JK. Moran, M. Willis, A. Doub, T.	e. Qualitative case studies etc.	Primary research (patient data analysis, interviews)	United States	50+	Alcohol, marijuana, nonmedical use of prescription drugs (e.g., opiates other than heroin, benzodiazepines, barbiturates), other illegal drugs (e.g., cocaine/crack, heroin, inhalants)	Cognitive-behavioral and self-management treatment approaches
46. Maintenance treatment programme for opioid dependence: characteristics of 50+ age group	2012	Badrakalimuthu, VR. Tarbuck, A. Wagle, A.	e. Qualitative case studies etc.	Primary research (survey)	United Kingdom	50+	Opioids, benzodiazepines, cocaine, amphetamines	Substitution treatment programme for opioid dependence
47. Gender differences in physical and mental health outcomes among an aging cohort of individuals with a history of heroin dependence	2012	Grella, CE. Lovingier, K.	e. Qualitative case studies etc.	Primary research (interviews and statistical analysis)	United States	30+	Heroin	Tailored interventions

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
48. Epidemiology of alcohol and drug use in the elderly	2013	Wang, YP. Andrade, LH.	f. Literature review	Secondary analysis (literature review)	North America Europe	60+	Alcohol and drugs	Medical screening
49. A review of existing treatments for substance abuse among the elderly and recommendations for future directions	2013	Kuerbis, A. Sacco, P.	f. Literature review	Secondary analysis (literature review)	United States	Older adults - not specified	Alcohol and illicit drugs	Age-specific treatment
50. 'Every 'never' I ever said came true': transitions from opioid pills to heroin injecting	2013	Mars, SG. Bourgois, P. Karandinos, G. Montero, F. Ciccarone, D.	e. Qualitative case studies etc.	Primary research (interviews, longer-term participant-observation, ethnographic studies)	United States	Various, including 30+	Opioids/heroin	Public health measures, surveillance, harm reduction, Substance use treatment services
51. Exercise referral for drug users aged 40 and over: results of a pilot study in the UK	2013	Beynon, CM. Luxton, A. Whitaker, R. Cable, TN. Frith, L. Taylor, AH. Zou, L. Angell, P. Robinson, S. Holland, D. Holland, S. Gabbay, M.	e. Qualitative case studies etc.	Primary research (evaluation)	United Kingdom	40+	Illicit drugs	Exercise referral

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
52. Experiences of drug use and ageing: health, quality of life, relationship and service implications	2013	Roe, B. Beynon, C. Pickering, L. Duffy, P.	e. Qualitative case studies etc.	Primary research (interviews)	United Kingdom	49-61	Illicit drugs	Tailored support services
53. Substance misuse in the older person: Setting higher standards	2013	Crome, I.	f. Literature review	Secondary analysis (literature review)	United Kingdom	65+	Alcohol, nicotine, prescription medication and illicit drugs	Treatment (clinical, pharmacological)
54. Under treatment of pain: a prescription for opioid misuse among the elderly?	2013	Levi-Minzi, MA. Surratt, HL. Kurtz, SP. Buttram, ME.	e. Qualitative case studies etc.	Primary research (interviews)	United States	60+	Prescription and illicit drugs	Education of clinicians
55. Residential treatment for drug use in Europe	2014	EMCDDA	e. Qualitative case studies etc.	Secondary analysis (statistics, expert opinion)	Europe	Older drug users	Illicit drugs	Residential treatment
56. The forgotten people: drug problems in later life	2014	Wadd, S.	f. Literature review	Primary research (interviews) and secondary analysis (pre-existing data)	United Kingdom	Older drug users	Illicit drugs	Drug treatment, prevention, identification, harm reduction, social care, strategy

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Title	Year	Author(s)	Research design	Methodology	Geography	Age range	Drug type(s)	Response type(s)
57. Screening, brief intervention, and referral to treatment (SBIRT) for substance abuse in older populations	2015	Liu, NH. Satterfield, JM.	f. Literature review	Primary research (case study) and secondary research (literature review)	United States	50+	Alcohol, illicit drugs, and prescription drug misuse	Screening, brief intervention, and referral to treatment
58. Screening, brief intervention, and referral to treatment for older adults with substance misuse	2015	Schonfeld L. Hazlett, RW. Hedgecock, DK. Duchene, DM. Burns, LV. Gum, AM.	e. Qualitative case studies etc.	Primary research (client screenings)	United States	50+	Alcohol, illicit drugs, and prescription drug misuse	Screening, brief intervention, and referral to treatment
59. A scoping review of treatments for older adults with substance use problems	2016	Mowbray, O. Quinn, A.	f. Literature review	Secondary research (literature review)	United States, Denmark	Discussed, not specified	Various	Treatments, primary care settings, health clinics, multiple treatments

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For context, 10 of the studies were categorised as evaluations of specific responses, programmes or interventions; nine of which studies were qualitative case studies/interviews/survey/other data without a control group and one of which was a controlled observational study (comparison of outcomes between participants who have received an intervention and those who have not). These studies were:

Table 2: Identified evaluation studies

Number	Title	Research design
5	Cognitive-behavioral treatment of older veterans with substance abuse problems	e. Qualitative case studies etc.
8	Five year alcohol and drug treatment outcomes of older adults versus middle-aged and younger adult chemical dependency patients in a managed care program.	e. Qualitative case studies etc.
17	Community interventions for older adults with comorbid substance abuse: the geriatric addictions program (GAP)	e. Qualitative case studies etc.
19	Retention and illicit drug use among methadone patients in Israel: a gender comparison	e. Qualitative case studies etc.
23	Comparison of heroin-assisted treatment and abstinence oriented residential treatment in Switzerland based on patient characteristics	e. Qualitative case studies etc.
29	Screening and brief intervention for substance misuse among older adults: the Florida BRITE project.	d. Controlled observational studies
44	Treatment experience and needs of older drug users in Bristol, UK	e. Qualitative case studies etc.
45	Treatment outcomes for older adults who abuse substances	e. Qualitative case studies etc.
51	Exercise referral for drug users aged 40 and over: results of a pilot study in the UK	e. Qualitative case studies etc.
58	Screening, brief intervention, and referral to treatment for older adults with substance misuse	e. Qualitative case studies etc.

2.6 Summary of results

Methods used: The majority of studies captured through the search strategy were based on primary research (33 studies, 56%). The most common research method was qualitative interviewing, followed by analysis of patient data. Ten studies used a mix of research methods; for example combining ethnographic fieldwork and interviews for a deeper qualitative analysis, or mixing quantitative and qualitative approaches. Those studies based on secondary analysis included literature reviews, systematic and narrative reviews, and commentary/expert opinion.

Geographic focus of research: In terms of geographic focus, just under half of the studies (29 studies, 49%) pertained to the US, followed by the United

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Kingdom (18 studies, 31%). With the exception of one study (which pertained to Israel) the remaining studies related to other countries or regions in Europe or North America, or a combination of countries therein.

Substance type: Considering the types of drugs reported, the most common focus was upon illicit drugs and prescribed drugs, frequently considered in conjunction with alcohol and under the banner of ‘substance abuse’. Where specific drugs were mentioned the most common focus, in a plurality of studies, was opioids or heroin.

Age range in definitions of the older drug user: As noted above, for purposes of the literature search ‘older drug user’ was defined as those aged 35 and over. However, within the literature the most common floor for the older drug user was aged 50 and older.

Response/intervention focus: The studies identified a diverse range of response types and interventions. An emerging theme was the requirement to improve awareness amongst medical and other front-line responders of the issue of high-risk drug use in older people, with the aim of allowing early identification and the targeting of tailored responses or interventions. The use of methadone maintenance treatments also featured, and a smaller number of studies focused on issues such as preventative measures or diversionary activities.

An area of increasing research activity: Academic engagement with older high-risk drug users has been a relatively recent phenomenon, and this is particularly evident when such engagement is narrowed to focus on service responses. The majority of the 59 identified studies have been published in the last ten years: the period from 2006 to 2016 accounts for 45 of the 59 studies (76%).

2.7 Limitations

The most significant limiting factor in the undertaking of this study was the extent to which the researcher had access to relevant grey literatures. This may represent an area for further development in any subsequent research.

3. KEY THEMES AND MESSAGES OF THE RESEARCH

3.1 Section overview

This section provides a discussion of key themes in the studies identified through the search strategy and review process. Much of the research produced through the literature search does not focus specifically on the effectiveness of service responses but may provide important information to contextualise the experience of older high-risk drug users (that indirectly can inform services). The discussion that follows therefore identifies themes about the experiences of older high-risk drug users and where possible focuses on that research where there was evidence of an evaluation of the effectiveness of service responses for older high-risk drug users, or barriers to the effectiveness of such approaches. The thematic discussion will draw upon the research studies identified through the search strategy (numbers refer to the numbered list of studies cited in Table 1 above, e.g. #1 is Pascarelli, 1979), supplemented with reference to other research where relevant to contextualise the theme under discussion.

3.2 Characteristics and trajectories of older high-risk drug users

A key theme to emerge from the identified literature concerned the unique characteristics and trajectories of older high-risk drug users, especially when compared to younger people who use similar substances. Early research sought to establish the status of drug abuse patterns among older people, to counteract stereotypical ideas that such drug use is solely an issue for young people (#1). Certainly, there is a general theme in the literature that older high-risk drug users must be considered as distinct in their experiences and trajectories, and that effective service responses must take these distinctive factors into account.

Based on survey data and in-depth semi-structured interviews, a 2003 study in the United States (#7) reported that older high-risk drug users have a more positive perspective on their participation in, and the effectiveness of, drug treatment programmes in comparison to younger users. Similarly, a 2004 study (#8) highlighted that older adults have favourable long-term outcomes following treatment relative to younger adults, but that these differences may be accounted for by variables associated with age, such as type of substance

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dependence, treatment retention, social networks and gender.⁴ This study continued that age differences in these characteristics should inform intervention strategies to support long-term recovery of older adults and provide direction for investigation of how age affects outcome. A literature review of research pertaining to older substance misusers (#18) suggests that whilst increasing age may equate to a longer substance-misuse career, there is good evidence accumulating that, given age-appropriate treatment, elderly patients are more likely to adhere to treatment goals than patients in a younger age group (54 years and below).

However, even within the population of older high-risk drug users it is important to recognise a diverse range of experiences with, and pathways to and from, drug use. The distinction between early onset and late onset of problem drug use features in the available literature, and has important consequences for treatment and recovery.⁵ Literature from the UK (e.g. #37) indicates that late onset substance misuse has different demographic associations and causes, and probably a better prognosis, than early onset misuse. However, in a 2008 exploration of this issue (#21) Boeri et al found that, with the exception of their general health, early onset users have some advantages compared late onsetters. The advantages of early onsetters included learning to control their drug use, successfully navigating both the drug world and mainstream society, and understanding health effects of substance misuse, such as disease transmission. In light of such factors, the authors here argue that understanding the life course trajectory of the older high-risk drug user will provide insights for social and health services, including drug treatment.

Grella and Lovinger (2011) explored the 30-year trajectories of heroin and other drug use among men and women sampled from methadone treatment in California (#32). This research indicated the significance of childhood behavioural problems and early onset of heroin use, supporting the

⁴ Whilst the issue of social networks may seem counter-intuitive here (in comparison to the important issue of the social isolation of older high-risk drug users) this study (#8) reported that older adults were less likely than younger adults to report having family or friends who encouraged use. It also considered it possible that older adults may benefit from smaller groups, or groups that focus on older adult issues. Alternatively, older adults may benefit from mobilising existing social networks to support recovery.

⁵ Some research (#41) has argued that late onset substance abuse is a much less common pattern, accounting for less than 10% of substance abuse among 'the elderly'. A 2014 literature review highlighted that determining whether late onset illicit drug use in older people is increasing remains a research priority (#56).

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importance of early intervention to address childhood conduct problems. In their review of illicit and non-medical drug use among older adults, Wu and

Blazer (2011, #35) found that the vast majority of older drug users seeking treatment initiated substance use before age 30, with many referred from the criminal justice system, suggesting a chronic course of substance abuse. In contrast, a 2005 study of the characteristics of older opioid maintenance patients (#10) found that the older group in this research began using illicit substances significantly later in life, and had significantly more medical problems and worse general health than the younger group.

The key messages from the literature on the characteristics and trajectories of older high-risk drug users demonstrates that older high-risk users are distinct from younger counterparts, and that, even within this older population, there is difference and diversity in experiences of drug use and the ability to navigate towards and achieve recovery. In particular, the literature suggests that that 'early onsetters' and 'late onsetters' are likely to have different outcomes due to their unique characteristics. The following theme is also indicative of the ways in which older high-risk drug users, despite their diversity, may be considered as distinct from younger counterparts.

3.3 Social isolation/exclusion, shame, stigma and residential care

Issues of social isolation and exclusion, shame and stigma were highlighted in the literature as important issues facing older high-risk drug users. Social isolation and shame were identified at a relatively early stage of research into older high-risk drug users. For example, in 1983 a study by Brown and Chiang (#3) highlighted that, controlling for age and gender effects, substance abuse appeared more prevalent among single and divorced elderly and among respondents who lived alone. Additionally, research by the Center for Substance Abuse Treatment in 1998 (#4) discussed how older adults tend to be ashamed about such issues, viewing them as a moral failing. This study also highlighted how issues of social isolation must be addressed in order to overcome mental health issues that may affect older high-risk drug users. A 2000 study from the United States (#5) also explored issues of social isolation and loneliness specifically in relation to older veterans in an age-specific outpatient programme. Issues of social isolation of older high-risk drug users in the United States were highlighted in an ethnographic study involving 69 drug users by Boeri and Tyndall (2012) (#42). One of the factors noticeable among the suburban drug users sub-sample in this study was that most had been raised in middle-class and affluent households, and were at the time of

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research poor and occasionally homeless with lost or minimal contact with family.⁶

In 2012 Ayres et al (#44) noted in their study of the Bristol Drugs Project (BDP) – an independent agency delivering treatment services to drug users, their families and friends, and advice to other professionals – the absence of older high-risk drug users attending services beyond health centre-based opiate substitution therapy. They reported that feelings of shame and embarrassment prevented people from seeking help with their drug use, and from being honest about drug-related harm that needed treatment. These feelings also led to isolation from family and friends and secret drug use, and interfered with positive social networks. Additionally, this study reported how fears about receiving a judgmental attitude from professionals prevailed, often despite peoples' experience to the contrary.

Conner and Rosen's 2008 study (#20) also highlighted the multiple experiences of stigma in an ageing methadone maintenance population in a large Midwestern city in the US. They concluded that respondents who reported more stigmas were more likely to identify stigma as a barrier to substance abuse and mental health treatment. Drug addiction was identified as the core stigma in this study; experienced by more than three quarters of respondents. In addition, several patterns in the experiencing of multiple stigmas emerged. Of those respondents who experienced two stigmas simultaneously, the most common combinations were the stigma of drug addiction and ageing (33%) and the stigma of depression and taking psychotropic medications (25%). Respondents also felt stigmatised for their drug use by the staff at drug rehabilitation facilities where they had attempted to receive treatment, and by drug treatment counsellors. Other key findings of this study included:

- Respondents who identified experiencing the multiple stigmas of drug addiction, being on methadone treatment, and ageing, also reported having fears about seeking drug treatment. This served as a barrier to their service use.
- These older addicts discussed not wanting to seek drug rehabilitation services because of their perception of being stigmatised due to their age by other addicts and staff. They were also worried they would be the oldest client in the methadone clinic, and that they would not fit in.

⁶ In a separate study Boeri and Tyndall (#42) highlighted the need for the expansion of harm reduction services focused on older adult drug users who are homeless, uninsured, or socially isolated.

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- The older individuals in this study may be particularly vulnerable to the stigma of ageing due to their experience with multiple stigmas, but also due to their deteriorating physical health.

Similarly, a 2011 study by Rosen et al (#34) found that the marginalisation of older heroin users was a predominant experience that impacted the intent to seek treatment as well as treatment retention.

Further considering the issues of social isolation, exclusion, shame and stigma, a 2010 report by the Scottish Drugs Forum (#28) recommended that agencies must take account of issues of isolation when planning and delivering services to older high-risk drug users, with greater emphasis on forming meaningful therapeutic relationships; encouraging 'new coping mechanisms'; the provision of individualised services; and exploring innovative approaches that meet general health care needs. This resonates with the findings of a study by the EMCDDA (#30) which, in the same year, reported the need to adapt and tailor existing services to an aging drug-using population. This EMCDDA report considered the difficulties in accommodating older drug users in mainstream nursing or retirement homes; highlighting that specialised nursing homes exist in only a few EU member states, and mainly as pilot projects (including in the Netherlands and Germany in the 1990s). More recent developments in Denmark, where a series of 'alternative nursing homes' have been established, sought to satisfy the need for care and create a social framework for users and prevent social isolation (#30). Subsequent work by the EMCDDA (#55) considered the provision of residential services for older high-risk drug users in Europe. This work indicated that whilst some countries (e.g. the Netherlands) report having residential treatment programmes that cater for the needs of older high-risk drug users, treatment experts in other countries (e.g. Spain) inform that suitable (long-term) residential programmes offering care and support to chronic, ageing drug users are yet to be fully developed.

The key messages on social isolation and exclusion, shame and stigma are that older people may experience such issues more frequently or acutely than younger counterparts. The provision of residential services for older high-risk drug users across Europe is also variable. The particular challenges for developing effective service responses require the recognition and addressing of these issues (e.g. through age specific treatment groups, age-inclusive outreach and advertising of treatment, etc.), as noted in the following key theme.

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3.4 Designing/adapting services for older high-risk drug users

A literature review (#41) has suggested that much of the existing infrastructure for treatment – ‘similar to the drug scene itself’ – is geared toward younger users, which may leave older patients feeling alienated. As previously noted, the 2010 study by the EMCDDA (#30) highlighted the need to adapt existing services to an aging drug using population. This included residential services, but also incorporated traditional drug treatment programmes, and services and pain management. This report indicated that the extent of medical, psychological and social needs of older high-risk drug users requires enhanced, multi-disciplinary and innovative approaches. Such a perspective, however, was neither new nor unique. In developing appropriate responses to the issue of social isolation, the 1998 study by the Center for Substance Abuse Treatment (#4) proposed the design and implementation of an older-adult-specific brief intervention. Indeed, the requirement to design or adapt treatments for older high-risk drug users was an important theme to emerge from many of the studies; indicative of a view, in 2001, that existing strategies in the UK were directed at younger adults, neglecting substance misuse in older people and the specific needs of older drug users (#6).

The tailoring of specific services for older high-risk drug users was a feature of a 2009 study in Switzerland by Gerlich et al (#23), which found that when comparing heroin-assisted treatment (HAT) and abstinence-oriented residential treatment (AORT), HAT service responses may be more appropriate for older high-risk drug users, especially where there were previous issues of involvement in crime. Moreover, the requirement to design or adapt existing services for older drug users was also reported in the 2012 study by Ayres et al (#44), which highlighted the need to ensure that service provision is age-appropriate and that staff are trained to understand the needs and anxieties of older high-risk drug users. Specifically, they discussed the ways in which residential and community detoxification programmes may need to adapt to meet the needs of older people, and how detoxification regimes may need to be much slower and better supported medically to accommodate age-related metabolic changes. Importantly, a 2013 study of the epidemiology of alcohol and drug use in the elderly (#48) proposed that there may be scope to further adapt or tailor services within the group of older high-risk drug users, for example in relation to gender or cross-cultural variation.

Considered collectively, these studies disclose the common position that there is a requirement to specifically design or adapt services – either existing

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or bespoke – in order to effectively engage with older high-risk drug users.

3.5 Mental health and physical health

Whilst the issue of older high-risk drug users has come to attention particularly through the statistics on drug-related deaths, issues of both the mental and physical health of older high-risk drug users were also identified as important in the available literature, and may have an impact upon the targeting and effectiveness of service responses. A consistent finding across the research base is that older drug users exhibit worse physical health than younger drug users in treatment. A small-scale qualitative study of illicit drug users in Merseyside in 2009, based on 10 interviews, found that interviewees had poor physical and mental health but low expectations of health services, and that older drug users who are not in contact with services are likely to have greater unmet needs (#26).

In a 2006 study of attempted cessation of heroin use among men approaching mid-life (28 years and older), Mullen and Hammersley (#15) highlighted the difficulties of cessation and the importance of good mental health in such endeavours. In particular they reported that relapse occurred because of quitting without adequate mental preparation, returning to old haunts and life circumstances, life difficulties, the tedium of a life without heroin, and inability to cope with normal emotions previously blocked by heroin use.

A study by D’Agostino et al, also in 2006 (#17), evaluated a community-based intervention programme that addressed co-occurring physical and psychological problems in older adults who have substance abuse issues. The study concluded that this programme, involving innovative, motivational wrap-around interventions that addressed substance use, mental health problems, and social and physical health concerns, showed great potential for meeting the multi-faceted needs of older adults with substance-use problems. The authors also recommended that the development and success of community-based models of care to address such issues indicated the need for training, service delivery changes, and research initiatives. Additionally, and resonating with a previously identified theme, this study also reported that stigma associated with substance use problems in older women may prevent them from seeking care, and thus prevent families and health care providers from identifying their need for care. A 2012 study of gender differences in physical and mental health outcomes among an aging cohort of individuals with a history of heroin dependence reported – based on primary research – that at a younger age, women reported poorer overall health status and more chronic health and mental health problems than men

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(#47). The authors of this study suggest that these findings may inform interventions for this population, particularly related to gender-specific treatment needs.

A 2008 study by Rosen et al (#22) noted that the aging opioid-addicted cohort from the 1970s has begun to alter the demographic characteristics of individuals in need of services for heroin addiction. This study reiterated that despite clear trends indicating that the population of older methadone patients is increasing, knowledge gaps remain in relation to well-being and service needs. The goal of this study was to assess the physical and mental health status of older methadone patients. Through interviewing 140 adult methadone patients over the age of 50, Rosen et al found that over half (57.1%) of respondents had at least one mental health disorder in the past year. They concluded that health and mental health professionals have the opportunity to address the specialised needs of this population and prepare for the shifting service needs these older patients will require.

A 2011 study by Rosen et al (#34) on older adult heroin users also noted high levels of physical and psychological/psychiatric comorbidities with substance misuse, and concluded that the development of appropriate interventions and treatment will be contingent on empirical research that adequately describes mental and physical health problems. A 2012 study in the UK (#43) also drew attention to the multiple psychosocial problems facing ageing heroin addicts. In relation to physical health, a study of 'the older heroin user' (#39) found that individuals in this group are in poorer health than both the general population and their younger heroin-using counterparts; that the gap between the health of heroin users and non-users widens with age; that older users have rates of hepatic, cardiovascular, pulmonary and musculoskeletal pathology that are more typical of the elderly; and, importantly, that the disease progression of the older user places them at greater risk of death from disease, overdose and suicide.

More positively, a 2012 study on treatment outcomes for older adults who abuse substances in the United States and based on primary research (#45) indicated that cognitive-behavioural and self-management treatment approaches targeted to older adults with substance abuse improved cognitive functioning, improved mental health, increased vitality, and reduced bodily pain. Improving the physical health of older high-risk drug users was a key factor in a 2013 study by Beynon et al (#51). This study sought to evaluate the effectiveness of an exercise referral program designed to have a positive effect on the health outcomes for high-risk drug users aged 40 and over. Through a mixed-methods approach (quantitative health and physiological

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data, as well as qualitative post-intervention interviews with both participants and gym instructors) the study reported that:

- While older drug users were willing to participate in exercise referral, their attendance fluctuated. Caring responsibilities and illness particularly affected people's ability to participate weekly.
- Non-significant reductions in blood pressure and heart rate and improvements in metabolic equivalents (METs; a measure of fitness) and general well-being were observed for eight participants (36%) who completed baseline and follow-up assessments.
- The number of weeks of gym attendance was significantly associated with a positive change in METs.
- The qualitative element of this research suggests that participation facilitated improvements in self-esteem and confidence, which are important in terms of health and well-being, particularly for marginalised or isolated groups.

Certainly, older high-risk drug users should not be considered as a group for whom exercise, even for pleasure, is necessarily precluded due to their lifestyle or drug use.⁷ The wider research on heroin users – not specifically older users – reinforces the finding that there is an important role for physical activity, sport and exercise within policy and practice responses to heroin use (Neale et al, 2012). This research noted there is a need to be creative and flexible regarding the kinds of activities promoted. Therefore, studies have indicated some positive effects of exercise on the health and well-being of high-risk drug users of all ages, including older people.

The literature in relation to exercise programmes for older high-risk drug users is small-scale, but promising. Benyon et al's study reported that older high-risk drug users were willing to engage in sport and exercise, and such participation indicated some positive changes in physical health and self-esteem. Nevertheless, barriers to such participation were also identified, emphasising the need to design services and programmes for older drug users that are tailored to their needs and adapt to their challenging life circumstances.

The key messages in relation to this theme include that there must be recognition that older high-risk drug users, like other demographic groups,

⁷ See the pilot investigation into the health of older injecting drug users in Wirral, UK, which noted some levels of physical activity, particularly in relation to walking, amongst the research participants, despite existing health issues such as respiratory problems (#40).

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may have mental health issues in addition to their use of illicit substances. Additionally, the use of illicit substances is also likely to have an adverse impact on their physical health. Such issues must be considered when

devising and delivering effective service responses, which must tackle the range of issues in a holistic manner.

3.6 Complex needs, barriers, diagnosis

Further to the previous theme, which highlighted the challenges facing older high-risk drug users in achieving and maintaining good physical and mental health, it is important to recognise the complex needs of this group, and the unique barriers they face in accessing effective services. This raises allied issues of awareness and diagnosis. The complexity of drug misuse amongst older people was highlighted in the earliest research on this topic (#1). By the time a long-term drug user (early onsetter) has reached an advanced age, he or she not uncommonly has: physical and mental health issues; long-term coping strategies and habits that affect (for better or worse) making a change towards recovery; reduced and often significantly deprived financial circumstances; reduced or no contact with family; and a more intense sense of shame around the drug use because of his or her age, as well as perceptions and experiences of judgmentalism in treatment. In this context Peppers and Stover (1979, #2) commented upon the requirement to treat 'elderly abusers' in a holistic manner.

Issues of mental health and multiple experiences of stigma, previously discussed, pose particular barriers to treatment for older high-risk drug users (see #20 and #44). Additionally, the life circumstances and lifestyles of older high-risk drug users may also contribute to their engagement with service responses, once they have been accessed. This was apparent in the 2013 study by Beynon et al (#51) on exercise referral which discussed the need for greater support for effective interventions – including educational interventions and supervision, monitoring and reviewing progress – in order to increase motivation and prevent drop out. This was due to the personal circumstances that can surround older high-risk drug users. Similarly – and again not specifically related to older high-risk drug users – Neale et al (2012) described the personal, social and structural barriers that can hinder the participation of heroin users, including family and personal circumstances, educational background, social class, labour market status, legal status, and financial situation.

The problem of the complex needs of older high-risk drug users is compounded by issues of appropriate and accurate diagnosis of their health

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issues. A 2005 study by Crome and Bloor (#12) noted that most patients assessed by medical staff were not being accurately diagnosed with problematic substance misuse; with the implication that treatment would, therefore, be denied. Another 2005 study by McGrath et al (#13) noted that presentation may be atypical and hence easily missed by the medical practitioner. The issue of awareness of high-risk drug use in older people is also pertinent. Crome et al argued in 2011 (#33) that given that older people now form the majority of hospital in-patients, knowledge about substance use and misuse needs to be embedded beyond the obvious hospital specialties of emergency medicine, geriatrics and internal medicine and to allied health professionals and in those in general practice. They continued that assessment and negotiation about substance use needs to be routine rather than sporadic. Further to such issues, a literature review from the United States (#35) indicated that older substance abusers are more likely to receive treatment through self-referrals or the criminal justice system than through general healthcare providers. Crome noted in 2013 (#53) that patients present to a very wide variety of social and medical care settings, so screening and assessment for substance use are of paramount importance. Crome continued that this group should not be marginalised and neglected by practitioners, researchers, educators and policy makers.

Several studies noted that awareness of the problems facing older high-risk drug users must be increased through education of professionals and the public. One 2013 study by Levi-Minzi et al (#54) highlighted the requirement to educate prescribing professionals on appropriate pain management for older adults while still being sensitive to issues of substance abuse and dependence. Another reported that social and health services should work collaboratively with the substance user through refined care pathways and produce pragmatic treatment plans (#27).

The key message of this theme supported the position that effective service responses for older high-risk drug users should include co-treatment of multiple issues – such as physical health, mental health and addiction – as well as offering ongoing personal support through medical and drug treatment professionals and practitioners. The accurate diagnosis of such issues, however, will depend upon increased awareness and training of professionals and practitioners to support older high-risk drug users. Increased awareness of the barriers to treatment for older high-risk drug users – including personal circumstances, mental health issues, financial and social circumstances, multiple experiences of stigma and shame – are also important in this context.

4. IMPLICATIONS AND CONCLUDING REMARKS

4.1 Implications for policy, practice and research

The academic literature on high-risk drug use by older people has begun to move beyond a simple recognition that ‘older people do take drugs’ and towards understanding the particular needs of this group and what works in improving their health and social outcomes. The challenges faced by older people affected by high-risk drug use are gaining attention in academic research, and evaluations of service responses have begun to emerge. Such developments, however, remain in their early stages and, as such, robust and reliable evidence on the effectiveness of service responses for older high-risk drug users is limited. Whilst the research base has certainly developed in recent years, there remain important gaps around the intersecting issues of gender, ethnicity and social class in relation to older high-risk drug users. The results of this review do, however, indicate that there are some promising seams developing in the field in relation to approaches, methods, and service responses to support outcomes for older people who are high-risk drug users. One important finding, which resonates with previous research across the range of ages and different types of problem drug users, is that the vast majority of studies on older high-risk drug users identified health, treatment or care-based responses as the most appropriate service response, in contrast to, for example, criminal justice-based approaches.

The implications for policy, practice and research are mixed. In relation to policy and practice, there are very few models – if any – that can be unproblematically transposed to the Scottish context in their existing form. The literature on service responses suggests the requirement for creativity and innovation in relation to devising and developing specific service responses for older high-risk drug users, whilst adhering to the principle of doing no further harm. An implication for practice and research is that the implementation of any new service responses must be designed from the outset with cognisance of the challenges of older high-risk drug use and the aforementioned barriers to engaging with treatment services and responses.

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APPENDICES

A. List of databases searched

- a. Applied Social Sciences Index and Abstracts (ASSIA)
- b. EBSCO Criminal Justice Abstracts
- c. Proquest Criminal Justice Periodicals
- d. ERIC (Education Resources Information Center)
- e. International Bibliography of Social Sciences (IBSS)
- f. National Criminal Justice Reference Service (NCJRS)
- g. Proquest dissertations and theses
- h. PsycINFO
- i. EBSCO PsycEXTRA
- j. Scopus
- k. Social Policy and Practice
- l. Sociological Abstracts
- m. Web of Science
- n. Westlaw
- o. Social Care Online
- p. Medline
- q. NIDA International Drug Abuse Research Abstract Database
- r. DrugData
- s. Drug and Alcohol Findings
- t. DrugText

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D. Glossary of acronyms

AORT: abstinence-oriented residential treatment

EMCDDA: European Monitoring Centre for Drugs and Drug Addiction

HAT: heroin-assisted treatment

NHS: National Health Service

RCT: Randomised controlled trial

SDMD: Scottish Drugs Misuse Database