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Responding to the needs of ageing drug users

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Responding to the needs of ageing drug users

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Abstract

Older people with drug problems (OPDP) are considered those aged 40 or over whose recurrent drug use is causing them harm or is placing them at a high risk of such harm. OPDP are likely to encounter negative life outcomes due to their drug use and they have characteristics and trajectories distinct from those of their younger counterparts. The number of OPDP in need of health and social care will increase in coming years, and this is particularly the case in the western European countries that saw the first heroin epidemics in the 1980s and 1990s. There is an increasing need to develop responsive policies, treatments and services to support the needs of OPDP in Europe.

This paper outlines the main health and social issues for ageing drug users. The paper also outlines the interventions and initiatives currently being delivered in Europe to address these issues. The paper concludes by exploring areas for future development, and the opportunities and challenges in this area, outlining the key implications for those engaged in planning or delivering health and social care responses to illicit drug use, specifically in relation to ageing drug users.

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This background paper was produced under contract CT.16.SDI.0142.1.0 and we are grateful for the valuable contribution of the authors. The paper has been cited within *Health and social responses to drug problems* and is also being made available online for those who would like further information on the topic. However, the views, interpretations and conclusions set out in this publication are those of the authors and are not necessarily those of the EMCDDA or its partners, any EU Member State or any agency or institution of the European Union.

Introduction

Older people with drug problems (OPDP) are defined, for the purposes of this report, as those aged 40 or over whose recurrent drug use is causing them harm or is placing them at a high risk of such harm (EMCDDA, 2010). OPDP are a heterogeneous group, but many are likely to encounter common negative life outcomes due to their drug use, and they have characteristics and trajectories that are distinct from those of their younger counterparts (Atkinson, 2016). A large proportion of OPDP observed in European health services are part of a cohort that started primary heroin use during the heroin epidemics of the 1980s and 1990s (Morgan, 2014) and were at a very high risk of contracting infectious diseases, as a result of, for example, human immunodeficiency virus (HIV) or hepatitis C virus (HCV) infection, from non-sterile injecting equipment. The number of OPDP in need of health and social care will certainly increase in coming years (Gfroerer et al., 2003). As a result, there is an increasing need to develop responsive policies, treatments and services to support the needs of OPDP in Europe.

Firstly, this report outlines the main health and social concerns with respect to drugs and ageing users, and the extent of these issues in Europe. The main health concerns in this population include a range of comorbid physical problems. Social concerns include isolation, ageism and stigma. Secondly, the report discusses a range of interventions to address the health and social concerns of OPDP. Interventions include specialised nursing homes to support the specific health needs of OPDP and social interventions to address isolation and loneliness. The report concludes by outlining future developments, opportunities and challenges in this area, and implications for drug policy and practice in Europe.

Health and social issues for older people with drug problems and the extent of these issues in Europe

Firstly, we will turn our attention to the main health and social issues faced by OPDP in Europe. Europe has witnessed increasing levels of recent drug use among people in older age groups, challenging the 'maturing out' theory (Atkinson, 2016). The most recent European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) data on treatment and drug-related death show two interesting trends in relation to OPDP. Firstly, while the number of opioid users entering treatment in the European Union (EU) is declining, the average age is increasing. Between 2006 and 2015, the number of new opioid users entering treatment in the EU decreased by 45 % (compared with a 9 % decline for all drugs). The mean age of clients entering treatment for opioid problems increased from 33 to 38 years, and the proportion of clients aged over 40 increased from 1 in 5 in 2006 to almost 2 in 5 in 2015. Secondly, the average age of people dying drug-related deaths (which mainly relate to opioids) increased by five years between 2006 and 2015. The proportion of drug-related deaths occurring in those aged over 40 years increased from around 1 in 3 in 2006 to nearly 1 in 2 in 2015.

By the age of 40, OPDP who are dependent on drugs generally have a long history of problematic substance use and this 'exacerbates or accelerates conditions associated with ageing' (EMCDDA, 2010, 7). Many OPDP suffer from physical handicaps or impairments that have developed during the years of their drug use, and OPDP are more likely to suffer from both physical and mental problems

than their peers in the general population or younger people who use similar substances (Atkinson, 2016).

A range of physical problems are evident in OPDP and it is estimated that the ageing process among OPDP is accelerated by at least 15 years (Vogt, 2009). OPDP report premature degenerative disorders, circulatory problems such as deep vein thrombosis, injection site ulcers, strokes, respiratory problems, pneumonia, breathlessness, diabetes, hepatitis and liver cirrhosis (Roe et al., 2010). As a consequence, OPDP suffer from comorbidities and are more susceptible to infection, disease, overdose and suicide (Matheson et al., 2017). Such conditions have a negative impact on an individual's quality of life and his or her ability to engage in normal everyday activities.

Given that many OPDP began injecting drugs in the 1980s when the availability of harm reduction interventions was limited (Hunt, 2010), HCV infection rates are high among this cohort. For example, a 2015 French survey (ENa-CAARUD), undertaken in low-threshold centres, found that HCV infection rates were four times higher (35.6 % versus 8.9 %) among older drug users (40 or over) than among younger drug users (30 or under). In addition, the self-reported prevalence of HIV infection was 12 times higher among older drug users than among younger drug users (7.4 % versus 0.6 %) ⁽¹⁾. It is likely that this cohort will go on to develop advanced liver disease (Larney et al., 2015), and this will have cost and resource implications with regard to the treatment of both HCV infections and resulting liver complications. Attention should also be paid to recent HIV outbreaks in Greece (Nikolopolous et al., 2015) and in Scotland (NHSGGC, 2016). In 2015, Glasgow witnessed an HIV outbreak, with 47 injecting drug users being diagnosed in just one year and a further 13 people being diagnosed by June 2016 (NHSGGC, 2016). The majority of those individuals are men aged between 30 and 50, and, among the group, there are high rates of homelessness, poverty and offending (Tweed and Rodgers, 2016).

Adequate pain management is an issue for OPDP (Matheson et al., 2017) with many reporting that they do not receive adequate pain relief from healthcare providers because their use of heroin and methadone has increased their tolerance to opioid analgesics (Ayres et al., 2012). There is a lack of guidance on effective pain management for OPDP (Cheatle et al., 2014) and a tendency to under-medicate the ageing drug user with opioid analgesics (EMCDDA, 2010, 23).

At the same time, Europe has seen an increase in the prescribing of gabapentinoids for neuropathic pain, among other indications (Chiappini and Schifano, 2015). These medications can themselves present a risk to OPDP because of their depressant effect on the central nervous system and also because of the potential for misuse if prescribed inappropriately (Baldacchino et al., 2016). These factors add to the complexity of managing physical illness in OPDP. In addition, other commonly prescribed medications, such as benzodiazepines, present recognised risks when co-prescribed with opioid replacement therapy. Benzodiazepines are now increasingly being implicated in drug-related death reports. This is of particular relevance for OPDP with significant comorbidities (Public Health England, 2016).

OPDP face a range of complex health issues, but, in addition, social issues such as isolation, loneliness, unemployment and homelessness are common challenges facing OPDP. Stigma and

⁽¹⁾ OFDT (Observatoire français des drogues et des toxicomanies) (2015), ENa-CAARUD survey, unpublished data.

ageism are commonly faced by OPDP. They are likely to suffer from negative social consequences as a result of their drug use, often experiencing social exclusion and isolation from their families, friends and social networks (Matheson et al., 2017; Atkinson, 2016; EMCDDA, 2010; Roe et al., 2010). The social networks of OPDP tend to be relatively small and composed mainly of other older drug users (Brand, 2016). The literature suggests that establishing new relationships can be difficult for OPDP, isolating this cohort even more. As a result, OPDP are likely to suffer from depression and loneliness (Matheson et al., 2017). Many OPDP are ashamed and embarrassed that they still use drugs, which prevents them from seeking help with their substance use (Atkinson, 2016) and, perhaps, from engaging with existing recovery communities. Many feel stigmatised by healthcare providers because of their long-standing drug use (Roe et al., 2010).

A significant proportion of OPDP live alone and often in unstable accommodation or institutions. They report a need to talk and be listened to by others, which is significant to their overall quality of life (Matheson et al., 2017).

OPDP are often unemployed or economically inactive and often have been for some time. In a study of eight EU countries ⁽²⁾, at least 86 % of older drug users who entered treatment for primary heroin use were unemployed or economically inactive (EMCDDA, 2010). In a recent study of 123 OPDP in Scotland, only three individuals worked and over 95 % were receiving welfare benefits (Matheson et al., 2017). The literature suggests that being unemployed has an impact on an individual's opportunity to develop social networks, skills and knowledge, causing more deeply entrenched marginalisation and isolation.

The health and social needs of OPDP are complex, and the literature suggests that a range of suitable and coordinated interventions and initiatives are therefore required to address this cohort's specific needs, as discussed below.

Health and social care interventions for older people with drug problems

Given that HCV infection is predictive of liver-related death, there are 'opportunities to improve access to, and uptake of, hepatitis C antiviral therapies in this population' (Larney et al., 2015, 35). Dried blood spot testing is now available as a less invasive and quicker approach to testing for blood-borne viruses among older drug users, who may be challenging to reach, test and treat (Stephens et al., 2010).

Specialised nursing homes for OPDP who are no longer able to look after themselves operate in countries such as Denmark, Germany and the Netherlands. Examples are few and are mainly pilot projects (EMCDDA, 2010); however, they could serve as useful models. Treatment experts further report that 'suitable (long-term) residential programmes that offer care and support to chronic, ageing drug users are yet to be fully developed' (EMCDDA, 2014, 18). Given that residential treatment patients are described as being typically 'older drug users' (EMCDDA, 2014), the literature points to a need for such establishments across Europe to support the complex needs of OPDP.

⁽²⁾ The Czech Republic, Germany, Ireland, Greece, Spain, Cyprus, Austria and Slovenia.

There may be some value in involving geriatricians, who could bring their experiences and approaches to bear on diagnoses and treatment plans for older drug users (Wilson et al., 2015). However, geriatric inpatient units and community old age psychiatry settings are currently ill equipped to provide the knowledge, skills and attitudes needed for the comprehensive assessment, treatment and care of OPDP (Wilson et al., 2015). Equipping mainstream geriatric and other relevant health and social care providers with such skills is likely to be necessary over the coming years (EMCDDA, 2010).

The Geriatric Addiction Program (GAP) was developed in the United States as a response to increasing OPDP referrals and specifically to meet the needs of older adults experiencing a multitude of problems related to addictions and their comorbidities (D'Agostino et al., 2006). The majority of clients were referred to GAP for alcohol problems, but approximately 15 % had comorbid drug problems (D'Agostino et al., 2006). The community-based intervention programme focuses on providing in-home geriatric substance use intervention, assessment and linkage services for older adults. The evidence suggests that, more than a decade since GAP's inception and despite positive outcomes, there is a dearth of similar programmes. Given the recognition that there is an ageing drug-using population with co-occurring physical and psychological problems (Matheson et al., 2017; Atkinson, 2016; EMCDDA, 2010), there is an immediate need to develop personalised interventions that address the needs of this specific cohort.

A focus on targeted workforce development will help to support those who currently come into contact with this group, and it is likely that the health and social care workforce will encounter OPDP in increasing numbers in the future (Matheson et al., 2017). Drink Wise, Age Well, is a five-year national programme delivered across the United Kingdom, providing training for the workforce that focuses on recognising and responding to alcohol use in the over 50s. With a direct focus on life transitions, the programme has proved to be successful in raising awareness of alcohol use in the ageing population (Drink Wise, Age Well, 2016). The literature suggests that trials of similar programmes for OPDP should be considered. Mandatory training around stigma and engagement seems necessary for those working with people who use drugs (McGrath et al., 2005). Investment in this workforce will be vital if improvements are to be made in terms of earlier detection, prevention, treatment and support for older people affected by drug problems (Wadd and Galvani, 2014).

As isolation and loneliness are significant issues faced by many OPDP (Matheson et al., 2017; Atkinson, 2016; Boeri and Tyndall, 2012; Brand, 2010), there is a need for care and community responses to address this life experience, which is associated with poor health outcomes (Holt-Lunstad et al., 2015). This could include working on coping strategies and improving social networks and increasing social capital by ensuring that OPDP have opportunities to participate in a range of activities that enhance well-being (Mguni et al., 2013).

'Men's shed' programmes have been developed in Australia, Canada, Ireland and the United Kingdom, which have allowed shed spaces to be established in communities. Men are encouraged to develop a 'sense of identity, self-esteem and value' by engaging in the programmes (Milligan et al., 2013, 1). Older men can come together, socialise and learn new skills in the safe 'shed' space. There are benefits in terms of tackling loneliness and isolation in developing shed programmes as a gendered intervention for male OPDP (Ballinger et al., 2009).

Wadd and Galvani (2014) suggest that, to address ageism and stigma, advocacy support could be provided by older people in relation to substance use services to help encourage older drug users to engage with those services. There may also be a role for peers/volunteers in such advocacy support. Peer support can increase self-esteem, give a greater feeling of being accepted and understood, and lead to increased hopefulness and more positive feelings about the future (Repper and Watson, 2012). Those in a peer/volunteer role can also benefit, with some reporting feeling empowered, more confident, less stigmatised and more valued, as well as having more skills and more money (Wadd and Galvani, 2014).

The specific accommodation needs of OPDP require attention, particularly for those who are attempting to move away from their former drug-using networks (Matheson et al., 2017). The evidence suggests that those likely to continue using drugs may require accommodation with a tenure that is not threatened by their continued drug use (Brand, 2010).

Thus far, this paper has described the complex health and social issues of OPDP, and the interventions currently available to support these needs. Future areas of development, opportunities and challenges are discussed below.

Future developments, opportunities and challenges in this area, and implications for drug policy and practice in Europe

The proportion of OPDP in Europe will continue to grow (Beynon et al., 2010) and careful planning will be required to meet future needs as the population ages. This will be challenging for EU countries. The specific needs of OPDP can be met by adapting existing non-age-specific services, including by adopting some of the approaches discussed in this paper, such as providing age-specific groups, hosting social activities and events, offering regular support groups, and developing peer and volunteer support. The restructuring of services might include expanding home visits, creating satellite services operating out of community provisions for older people and more outreach work. Future planning is, however, imperative.

In 2010, the EMCDDA reported that no EU Member State specifically recognised the needs of older drug users in its alcohol and drug strategies or supporting policies. This has not significantly changed in the previous seven years; however, the situation has started to shift. In 2016, the Scottish Government commissioned research focusing on the health and social care needs of older drug users to inform its updated drug and alcohol strategy. The most recent drug-related death figures in Scotland show that the majority of drug-related deaths were among 35- to 54-year-olds and this is a growing trend (National Statistics, 2017). Given this evidence, there is, more than ever, a need for governments to develop strategies and policies to prevent unnecessary deaths among this very specific cohort.

Public health approaches across Europe in the previous 20 years have significantly improved survival rates; however, there are still a number of shortcomings with regard to older people's overall health and social conditions (Beard and Bloom, 2015). There is a need for an integrated, multidisciplinary approach to public health, reflecting the 'needs, capacities, and aspirations of older people and the changing contexts in which they function' (Beard et al., 2015, 1). Many of the symptoms that OPDP have developed could have been prevented if a greater emphasis had been given to 'early life

strategies of enabling healthy behaviours and controlling metabolic risk factors' (Beard et al., 2015, 2). Public health policy should promote good health in older age (Beard et al., 2015).

In Australia, service providers report a lack of appropriate screening tools to identify older people affected by substance use problems (NSW Health, 2015), and this is an area that may require further exploration in European countries. Ideal treatment outcomes as understood by academics and policymakers are not currently realistic or relevant for this ageing cohort. . The Bristol Drugs Project's '50 Plus Crowd' initiative in the United Kingdom aims to achieve outcomes related to improved health and well-being among older people, rather than more conventional recovery-oriented outcomes (DrugScope, 2014). An outcome focusing on employment, for example, may not be particularly relevant for those at retirement age. Policy- and decision-makers should consider how appropriate traditional recovery outcomes are for this cohort, exploring the inclusion of a 'wide range of outcomes focused on improved health and increased levels of wellbeing' (DrugScope, 2014, 19).

Service providers should be made aware of gender-specific issues for OPDP (Grella and Lovinger, 2012). For example, older women who use drugs may have different support needs than older men who use drugs (Grella and Lovinger, 2012). Specific services for older women who use drugs might include providing support around abuse, the responsibilities of childcare and the trauma of having children removed. Crucial here is that OPDP have a choice of interventions and treatment options and can choose options suited to their gender and needs.

In terms of innovative, specialised service development, services might consider supervised methadone consumption in the homes of OPDP or take-home maintenance medication. The latter may require fewer staff and have fewer financial implications for services. Consideration should be given to heroin-assisted treatment (HAT) for those who have long-standing, entrenched problems and could be described as being 'treatment resistant' (Blanken et al., 2009). HAT is available in a number of European countries and findings suggest that 'long-term HAT is an effective treatment for chronic heroin addicts who have failed to benefit from methadone maintenance treatment' (Blaken et al., 2009). The literature further suggests that HAT is particularly suitable for older clients with more health problems and greater former crime involvement than their younger counterparts, including when compared with abstinence-oriented residential treatments (Gerlich et al., 2009). Opportunities exist to develop similar treatment options for OPDP, particularly in areas where there are high incidences of HIV infection and public injecting.

In Glasgow, consideration is being given to the development of a safe injecting facility (NHSGGC, 2016) to discourage public injecting. Given that the majority of those who inject drugs in public in Glasgow can be defined as older drug users (NHSGGC, 2016), these facilities could be beneficial for those among the ageing cohort who wish to continue injecting. Safe injecting facilities have been operational since the mid-1980s, with 90 facilities across 61 cities worldwide (NHSGGC, 2016). The majority are in Europe and approval has been granted for facilities in Dublin and across France (NHSGGC, 2016).

The ageing cohort will become the main population accessing services in some European countries; however, demand for services from other types of drug users will also grow. For example, the emergence and use of 'new' drugs is increasing across Europe (Manchester et al., 2017). This will

have an impact on the functioning of services (Scherbaum et al., 2017) as they become more focused on responding to this trend and to subgroups such as vulnerable young people and men who have sex with men (McLeod et al., 2016). This focus may have a negative impact on the treatment and more broadly on the lives of ageing drug users, who have a different set of treatment and support needs.

Housing-first models could be developed for OPDP who are homeless or living in unstable conditions. The premise on which these models are based is that safe and suitable housing is a prerequisite for overcoming social and physical challenges (McGhie et al., 2013). Examples of housing-first models can be found in Finland, where housing is considered the first step towards successfully reducing isolation and loneliness. However, there is evidence to suggest that unemployment and social isolation are problems for homeless adults even after they have obtained housing (Pleace, 2011). This suggests that other initiatives, such as peer support groups, need to be used in tandem with housing-first models. Nevertheless, providing safe and suitable accommodation for OPDP should be a priority, given that they are often homeless or living in unstable conditions (Matheson et al., 2017). Meeting their housing needs may help OPDP to stabilise their drug use and address the comorbidities they face. Physically accessing services will be challenging for some OPDP who face physical challenges. Providing or arranging transport for OPDPs and home visits have proved successful in terms of gaining a full picture of a person's vulnerabilities and disabilities (Royal College of Psychiatrists, 2015), particularly for those who have mobility problems and those living in rural areas.

For those for whom employment is still an option, employers need to be aware of the physical and social issues experienced by this population (Spencer et al., 2008), as these issues may prevent OPDP from engaging in employment in a traditional way. Many employers feel that OPDP are not 'job ready' (Spencer et al., 2008) when perhaps they could be if they were adequately supported. In this regard, employers require support and training to challenge these perceptions and to help them better understand the issues that prevent this cohort of individuals from entering the workforce.. Employability support services for OPDP could focus on three stages: building job readiness, practical support in the search for employment and aftercare support to help sustain employment (Spencer et al., 2008). This is a potential area for future development with regard to better supporting OPDP.

Finally, Matheson et al. (2017) recommend a coordinated approach for OPDP, with effective interagency partnerships and referral systems between specialised and mainstream health and social care services. Given that this cohort will soon become the largest drug treatment population in Europe, 'adequate measures do not appear to be in place at levels required to meet the current and upcoming needs of this population' (Pirona et al., 2015). This poses a challenge for EU Member States.

Conclusion

This paper summarises what is currently understood about OPDP in a European context. By the age of 40, people who are dependent on drugs generally have a long history of problematic substance use and this is likely to accelerate conditions associated with ageing. There are higher incidences of both physical and mental problems among older drug users than among either their peers of the same age in the general population or younger drug users. Isolation, social exclusion and loneliness

are social consequences that OPDP face. This paper highlights the need for policymakers in Member States to address the needs of OPDP 'within the framework of their drug, health and social policies' (EMCDDA, 2010, 28). Policies and relevant drug strategies must now pay particular attention to OPDP, as the number of them in need of health and social care will increase in the coming years. Responses at policy and service levels are required to address the multiple, complex needs that this population faces. Governments should consider providing additional resources, especially in those countries most affected.

OPDP are not a homogeneous group, and they have differing needs. Key issues that should be recognised by service providers are comorbidity, chronic conditions, overdose deaths, early ageing, loneliness, isolation and stigma. Suggestions outlined in this paper for service improvement include modifying provisions within existing services, coordinating resources and services, restructuring service provision and the development of innovative, specialised services. Some of these recommendations will inevitably have financial implications, and therefore adequate and flexible funding is pivotal. The interface between specialised and mainstream health and social care services should be reviewed, and investments in workforce development will be critical in ensuring early detection, prevention and treatment for OPDP in Europe.

References

- Atkinson, C. (2016), *Service responses for older high-risk drug users: a literature review*, The Scottish Centre for Crime and Justice Research, Glasgow (available at <http://www.sccjr.ac.uk/wp-content/uploads/2016/08/SCCJR-Report-062016.pdf>).
- Ayres, R. M, Eveson, L., Ingram, J. and Telfer, M. (2012), 'Treatment experience and needs of older drug users in Bristol, UK', *Journal of Substance Use* 17, pp. 19-31.
- Baldacchino, A. M., Tolomeo, S., Khan, F., Humphris, G. M. and Carra, G. (2016), 'Acute risk factors in fatal opioid overdoses as a result of hypoxia and cardiotoxicity. A systematic review and critical appraisal', *Heroin Addiction and Related Clinical Problems* 18, pp. 33-42.
- Ballinger, M. L., Talbot, L. A. and Verrinder, G. K. (2009), 'More than a place to do woodwork: a case study of a community-based Men's Shed', *Journal of Men's Health* 6, pp. 20-27
- Beard, J. R. and Bloom, D. E. (2015), 'Towards a comprehensive public health response to population ageing', *The Lancet* 385, pp. 658-661.
- Beynon, C. M., Stimson, G. and Lawson, E. (2010), 'Illegal drug use in the age of ageing', *The British Journal of General Practice* 60, pp. 481-482.
- Blanken, P., Hendriks, V. M., Van Ree, J. M. and Brink, W. V. D. (2009), 'Outcome of long-term heroin-assisted treatment offered to chronic, treatment-resistant heroin addicts in the Netherlands', *Society for the Study of Addiction* 105, pp. 300-308.
- Brand, B. (2010), *Older drug users in Scotland: professionals' views*, Scottish Drugs Forum, Glasgow (available at <http://www.sdf.org.uk/wp-content/uploads/2016/08/SDDprofessionals.pdf>).
- Boeri, M. W. and Tyndall, B. D. (2012), 'A contextual comparison of risk behaviors among older adult drug users and harm reduction in suburban versus inner-city social environments', *Journal of Applied Social Science* 6, pp. 72-91.
- Cheatle, M., Comer, D., Wunsch, M., Skoufalos, A. and Reddy, Y. (2014), 'Treating pain in addicted patients: recommendations from an expert panel', *Population Health Management* 17, pp. 79-89.
- Chiappini, S. and Schifano, F. (2016), 'A decade of gabapentinoid misuse: an analysis of the European Medicines Agency's "suspected adverse drug reactions" database', *CNS Drugs* 30, pp. 647-654.
- D'Agostino, C. S., Barry, K. L., Blow, F. C. and Podgorski, C. (2006), 'Community interventions for older adults with co-morbid substance abuse the geriatric addictions program (GAP)', *Journal of Dual Diagnosis* 2, pp. 31-45.
- Drink Wise, Age Well (2016), *Drink Wise, Age Well Impact Report 2016*, Drink Wise, Age Well, Glasgow (available at http://www.drinkwiseagewell.org.uk/wp-content/uploads/2016/11/DWAW_AR16-LoResSpreads2.pdf).
- DrugScope (2014), *It's about time: tackling substance misuse in older people 2014*, DrugScope, London (available at <http://www.drugwise.org.uk/wp-content/uploads/its-about-time-report.pdf>).

EMCDDA (2010), *Treatment and care for older drug users*, Publications Office of the European Union, Luxembourg (available at http://www.emcdda.europa.eu/system/files/publications/580/EMCDDA_SI10_Ageing_242756.pdf).

EMCDDA (2014), *Residential treatment for drug use in Europe*, EMCDDA Papers, Publications Office of the European Union, Luxembourg.

Gerlich, M. G., Schaaf, S., Gross, C. S. and Uchtenhagen, A. (2009), 'Comparison of heroin-assisted treatment and abstinence-oriented residential treatment in Switzerland based on patient characteristics', *Contemporary Drug Problems* 36, pp. 327-343.

Gfroerer, J., Penne, M., Pemberton, M. and Folsom, R. (2003), 'Substance abuse treatment need among older adults in 2020: the impact of the aging baby-boom cohort', *Drug and Alcohol Dependence* 169, pp. 127-135.

Grella, C. E. and Lovinger, K. (2012), 'Gender differences in physical and mental health outcomes among an aging cohort of individuals with a history of heroin dependence', *Addictive Behaviors* 37, pp. 306-312.

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T. and Stephenson, D. (2015), 'Loneliness and social isolation as risk factors for mortality: a meta-analytic review', *Perspectives on Psychological Science* 10, pp. 227-237.

Hunt, N. (2010), *A review of the evidence-base for harm reduction approaches to drug use*, Forward Thinking on Drugs, London (available at <https://www.hri.global/files/2010/05/31/HIVTop50Documents11.pdf>).

Larney, S., Bohnert, A. S. B., Ganoczy, D., Ilgen, M. A., Hickman, M., Blow, F. C. and Degenhardt, L. (2015), 'Mortality among older adults with opioid use disorders in the Veteran's Health Administration, 2000-2011', *Drug and Alcohol Dependence* 147, pp. 32-37.

McGhie, L., Barken, R. and Grenier, A. (2013), *Literature review: Housing options for older homeless people 2013*, GilbreaCentre for Studies in Aging, Ontario (available at <http://aginghomelessness.com/wp-content/uploads/2012/10/Literature-Review-Housing-Options-for-Older-Homeless-People.pdf>).

McGrath, A., Crome, P. and Crome, I. B. (2005), 'Substance misuse in the older population', *Postgraduate Medical Journal* 81, pp. 228-231.

McLeod, K., Pickering, L., Gannon, M., Greenwood, S., Liddell, D., Smith, A., Johnston, L. and Burton, G. (2016), *Understanding the patterns of use, motives and harms of new psychoactive substances in Scotland*, Scottish Government, Edinburgh.

Manchester, K. R., Lomas, E. C., Waters, L., Dempsey, F. C. and Maskell, P. D. (2017), 'The emergence of new psychoactive substance (NPS) benzodiazepines: a review', *Drug Testing and Analysis* doi:10.1002/dta.2211.

Matheson, C., Liddell, D., Hamilton, E. and Wallace, J. (2017), *Older people with drug problems in Scotland*, Scottish Drugs Forum, Glasgow (available at <http://www.sdf.org.uk/wp-content/uploads/2017/06/OPDP-mixed-methods-research-report-PDF.pdf>).

- Mguni, N., Caistor-Areder, L. and Kelleher, S. (2013), *Who is going to employ me? A resilience intervention for men*, The Young Foundation, London.
- Milligan, C., Dowrick, C., Payne, S., Hanratty, B., Irwin, P., Neary, D. and Richardson, D. (2013), *Men's Sheds and other gendered interventions for older men: improving health and wellbeing through social activity*, Lancaster University Centre for Ageing Research, Lancaster (available at <http://sphr.nihr.ac.uk/wp-content/uploads/2014/12/SPHR-LIL-PH1-MIS-Age-UK-brief-report-FINAL.pdf>).
- Morgan, N. (2014), *The heroin epidemic of the 1980s and 1990s and its effect on crime trends — then and now*, Research Report 79, Home Office, London (available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332952/horr79.pdf).
- National Records of Scotland (2017), *Drug-related deaths in Scotland in 2016: Statistics of drug-related deaths in 2016 and earlier years, broken down by age, sex, selected drugs reported, underlying cause of death and NHS board and council areas*, National Records of Scotland, Edinburgh (available at <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/drug-related-deaths-in-scotland/2016>).
- NHS Greater Glasgow and Clyde (NHSGGC) (2016), *Health needs of people who inject drugs in public spaces* (available at http://www.nhsggc.org.uk/media/238302/nhsggc_health_needs_drug_injectors_full.pdf).
- Nikolopolous, G. K., Sypsa, V., Bonovas, S., Parakevis, D., Malliori-Menerva, M., Hatzakis, A. and Friedman, S. R. (2015), 'Big events in Greece and HIV infection among people who inject drugs', *Substance Use and Misuse* 50, pp. 825-838.
- NSW Health (2015), *Older People's Drug and Alcohol Project: full report*, NSW Ministry of Health, Sydney (available at <http://www.health.nsw.gov.au/aod/professionals/Publications/opdap-fullreport.pdf>).
- Pirone, A., Guarita, B., Montanari, L. and Noor, A. (2015), *Ageing and addiction: challenges for treatment systems*, European Monitoring Centre for Drugs and Drug Addiction, Lisbon (available at https://www.researchgate.net/publication/282363180_Ageing_and_addiction_challenges_for_treatment_systems).
- Pleace, N. (2011), 'The ambiguities, limits and risks of housing first from a European perspective', *European Journal of Homelessness* 5, pp. 113-127.
- Public Health England (2016), *Trends in drug misuse deaths in England, 1999-2014*, Public Health England, London.
- Repper, J. and Watson, E. (2012), 'A year of peer support in Nottingham: the peer support workers and their work with individuals', *Journal of Mental Health Training, Education & Practice* 7, pp. 79-84.
- Roe, B., Beynon, C., Pickering, L. and Duffy, P. (2010), 'Experiences of drug use and ageing: health, quality of life, relationship and service implications', *Journal of Advanced Nursing* 66, pp. 968-1979.

Royal College of Psychiatrists (2015), *Substance misuse in older people: an information guide*, Royal College of Psychiatrists, London (available at https://www.rcpsych.ac.uk/pdf/Substance%20misuse%20in%20Older%20People_an%20information%20guide.pdf).

Scherbaum, N., Schifano, F. and Bonnet, U. (2017), 'New psychoactive substances (NPS) — a challenge for the addiction treatment services', *Pharmacopsychiatry* 50, pp. 116-122.

Spencer, J., Deakin, J., Seddon, T., Ralphs, R. and Boyle, J. (2008), *Getting problem drug users (back) into employment: part two*, UK Drug Policy Commission, London.

Stephens, B. P., Keeffe, S. O., Tait, J. M., McIntyre, P. and Dillion, J. F. (2010), 'The use of dry blood spot testing for hepatitis C within needle exchange services', *British Medical Journal* 59, A156.

Tweed, E. and Rodgers, M. (2016), '*Taking away the chaos: the health needs of people who inject drugs in public places in Glasgow city centre*', NHS Greater Glasgow and Clyde, Glasgow.

Vogt, I. (2009), 'Life situations and health of older drug addicts: a literature report', *Suchttherapie* 10, pp. 17-24.

Wadd, S. and Galvani, S. (2014), *The forgotten people: drug problems in later life. A report for the Big Lottery Fund — July 2014*, University of Bedfordshire, Bedfordshire (available at <http://envejecimiento.csic.es/documentos/documentos/drogas-personasmayores-02-2015.pdf>).

Wilson, D., Jackson, S., Crome, I. B., Rao, R. and Crome, P. (2015), 'Comprehensive geriatric assessment and the special needs of older people', pp. 173-188, in Crome, I., Wu, L. T., Rao, R. and Crome, P. (eds), *Substance use and older people*, Wiley, London.