At the Sharp End:

A Pilot Investigation into the Health of Older Injecting Drug Users in Wirral

---

Caryl Beynon and Lloyd Baron

May 2011

liverpool JMU
Centre for Public Health

Introduction

European estimates suggest that between 2001 and 2020 the number of people aged 65 and over with a substance abuse problem or needing treatment for an abuse disorder will more than double (European Monitoring Centre for Drugs and Drug Addiction, 2008). Evidence for this demographic change in the UK has been demonstrated using established monitoring systems. In Cheshire and Merseyside, people aged 40 or over made up only 10% of the population in drug addiction services in 1998 compared to 23% in 2004/05 (Beynon et al., 2007). Monitoring of drug treatment now occurs on a national basis and the most recent data for the North West shows that the percentage of the treatment population aged 40 and over in 2009/10 had risen to 31% (N=12,418; Hurst et al., 2010). Across England and Wales, the North West's drug treatment population is relatively old (Hurst, 2009), and Wirral has the highest median age (39 years) of the in treatment population in the North West (Hurst et al., 2010). Therefore, issues relating to age such as those being experienced in Wirral, are likely to affect other areas in the future.

Research conducted in Cheshire and Merseyside has also demonstrated the existence of older injecting drug users. The median age of injectors attending needle and syringe programmes was 27.0 years in 1992 and 34.9 years in 2004 (Beynon et al., 2007). Older drug users experience significant health challenges as they age (Beynon et al., 2009), and die earlier than non drug users from a range of causes over and above those specifically categorised as constituting a drug related death (Beynon et al., 2010a).

The aims of this study were:

1. To quantify the number and proportion of injecting drug users aged 50 and over accessing agency based needle and syringe programmes in Wirral.

2. To establish whether the proportion of injecting drug users aged 50 and over accessing agency based needle and syringe programmes in Wirral has changed between 1992 and 2010.

3. To identify the proportion of injecting drug users aged 50 and over in contact with agency based needle and syringe programmes who are reported in structured drug treatment, and compare this to the proportion of younger injectors reported in treatment.

4. To identify self-reported health-related issues faced by older injectors and other aspects of their lives which impact upon their health.

5. To examine the feasibility of using a review of the medical notes of injectors to ascertain their healthcare in relation to: blood borne viruses, blood pressure, drug screening, cardiac function, kidney function and liver function.

6. To increase awareness of the needs of older injectors amongst individuals who work across health services in Wirral.

Older Injectors' Contact with Services in Wirral

Tables 1 and 2 describe the number and proportion of male and female injecting drug users in contact with agency based needle and syringe programmes in Wirral by age group and over time. Table 1 provides details of all clients, while Table 2 excludes injectors of anabolic steroids and those for whom no drug data were recorded within agency based needle and syringe programme data. Chi square trend analyses shows that the proportion of both males and females aged 50 and over in contact with agency based needle and syringe programmes has increased significantly between 1992 and 2010. However, the increase in the proportion of women aged 50 and over accessing agency based needle and syringe programmes is largely due to a reduction in the number of women aged less than 50 accessing these services, and the number of women aged 50 and over accessing these services remains low.

Table 3 details the number and proportion of injectors in contact with agency based needle and syringe programmes in 2010 who were also reported as being in structured drug treatment (using data from the National Drug Treatment Monitoring System) by age group and gender. Here, injectors reported in agency based needle and syringe programmes as anabolic steroid injectors have been removed, as have those whose main injected drug was unknown. A greater proportion of male needle and syringe programme clients aged less than 50 were in contact with drug treatment services than those aged 50 and over (73.5% and 64.7% respectively), although this difference was not significant. The only female needle and syringe programme client aged 50 or over was not reported as being in contact with drug treatment services.

Table 1. Age of people in contact with agency based needle and syringe programmes, by gender, in Wirral

	Males*				Females**			
	Under 50 years		50 and above		Under 50 years		50 and above	
Year	N	%	N	%	N	%	N	%
1992	615	99.8	1	0.2	152	99.3	1	0.7
1993	650	99.7	2	0.3	144	99.3	1	0.7
1994	565	99.6	2	0.4	130	99.2	1	0.8
1995	577	99.3	4	0.7	116	99.1	1	0.9
1996	503	99.0	5	1.0	106	99.1	1	0.9
1997	558	98.9	6	1.1	125	98.4	2	1.6
1998	471	98.3	8	1.7	95	97.9	2	2.1
1999	453	98.1	9	1.9	90	96.8	3	3.2
2000	385	97.5	10	2.5	69	95.8	3	4.2
2001	449	98.0	9	2.0	67	97.1	2	2.9
2002	443	97.8	10	2.2	63	96.9	2	3.1
2003	492	97.0	15	3.0	68	95.8	3	4.2
2004	553	96.8	18	3.2	73	94.8	4	5.2
2005	535	97.3	15	2.7	51	91.1	5	8.9
2006	612	96.7	21	3.3	39	92.9	3	7.1
2007	723	96.5	26	3.5	49	94.2	3	5.8
2008	1,064	96.6	37	3.4	61	95.3	3	4.7
2009	1,258	97.7	29	2.3	64	97.0	2	3.0
2010	1,156	97.1	34	2.9	43	93.5	3	6.5

*X^2trend = 55.119, P<0.001. **X^2 trend = 21.438, P<0.001. Source: Inter-Agency Drug Misuse Database.

Table 2. Age of people in contact with agency based needle and syringe programmes, by gender, in Wirral

	Males*				Females**			
	Under 50 years		50 and above		Under 50 years		50 and above	
Year	N	%	N	%	N	%	N	%
1992	365	100	0	0.0	106	99.1	1	0.9
1993	384	100	0	0.0	102	99.0	1	1.0
1994	334	100	0	0.0	92	98.9	1	1.1
1995	348	100	0	0.0	85	98.8	1	1.2
1996	315	100	0	0.0	77	98.7	1	1.3
1997	362	99.7	1	0.3	101	98.1	2	1.9
1998	311	98.7	4	1.3	79	97.5	2	2.5
1999	288	99.0	3	1.0	65	95.6	3	4.4
2000	250	97.7	6	2.3	57	95.0	3	5.0
2001	269	98.5	4	1.5	52	96.3	2	3.7
2002	249	98.0	5	2.0	55	96.5	2	3.5
2003	258	97.0	8	3.0	54	94.7	3	5.3
2004	273	96.5	10	3.5	62	95.4	3	4.6
2005	231	96.3	9	3.8	42	91.3	4	8.7
2006	177	93.7	12	6.3	26	89.7	3	10.3
2007	258	94.5	15	5.5	34	91.9	3	8.1
2008	390	95.1	20	4.9	50	96.2	2	3.8
2009	405	96.0	17	4.0	50	98.0	1	2.0
2010	189	91.7	17	8.3	26	96.3	1	3.7

*X^2trend = 115.755, P<0.001. **X^2 trend = 11.287, P<0.001. Source: Inter-Agency Drug Misuse Database. Steroid users and those with no recorded drug data have been removed.

Table 3. Drug treatment contact of agency based needle and syringe programme clients, by gender, in Wirral in 2010

	Males				Females			
	Under 50 years		50 and above		Under 50 years		50 and above	
	N	%	N	%	N	%	N	%
Reported in drug treatment	139	73.5	11	64.7	20	76.9	0	0
Not reported in drug treatment	50	26.5	6	35.3	6	23.1	1	100

There was no significant difference in the proportion of males and females aged under 50 and 50 and over accessing drug services. Source: Inter-Agency Drug Misuse Database and National Drug Treatment Monitoring System. People reported by agency based needle and syringe programmes as being injectors of steroids and those with no recorded drug data have been removed.

Interviews with Older Injectors in Wirral

Ten interviews were conducted during April and May 2010. One woman and nine men took part and their ages ranged from 51 to 61 years. Participants were selected for interview by staff at the Lodge drugs service. Seven interviewees also consented to staff at the Lodge passing on anonymous details from their medical records; staff at the Lodge transcribed medical information onto an anonymous form which was given to the research team. This form requested details of a number of health checks such as blood pressure, hepatitis and HIV tests and liver function tests. Ethical approval for the interviews and analysis of details from medical records was obtained from the NHS Research Ethics Committee.

Drug use: prescribed and illicit

Each participant was a current injecting drug user. For the majority of interviewees the drug that they were injecting was their prescribed opiate substitute medication, methadone or diamorphine, and in general this was the only drug they used. Receiving an opiate substitute prescription had, for many, enabled them to reduce their illicit drug use and live more stable lives:

"[A diamorphine prescription] *has been life-saving. It's enabled me to achieve a degree of stability I didn't think possible. It's enabled me to make a bargain with myself to stick on it and to renounce the street, which I have kept, which it is psychologically good for me and adds to my self-esteem. If that was to be withdrawn, it would have a devastating effect."*

"Cos I just use my prescription and always have done. Y'know once I got it, I realised what a good thing I was getting and y'know not to put it in any jeopardy. And I'm not interested in street drugs at all… Stabilised me, yeah. And stopped me getting into trouble."

A number of people were using illicit drugs (heroin, crack cocaine or cannabis) and this included injecting as a route of administration, but generally the levels of use of non-prescribed drugs were low and/or infrequent. The reasons for using illicit drugs included finding the amount of prescribed medication they were receiving did not fulfil their needs:

"Although I still find my script challenging to the degree where I can end up using it early. I get a week's at a time now. So I do find that I start playing mind games. I stay up late past midnight, and then I'll use another batch. And I still get into mind games and I still find it challenging to make my script last."

Six of the participants also reported using other prescribed medications which included: benzodiazepines, anti-psychotic medications, anti-depressant medications and inhalers.

Without exception, interviewees smoked tobacco with the amount ranging from about four to 25 roll up cigarettes per day. Drug users are more likely to be tobacco smokers than individuals amongst the general population, with one study, for example, reporting that 98% of clients accessing a methadone clinic in South London smoked (Tacke et al., 2001). The serious health implications of smoking tobacco are well documented and respondents said that they had been encouraged to cut down or cease tobacco use and some showed a keenness to do so. Clinical guidelines recognise that many drug users have smoking related diseases and highlight the importance of offering smoking cessation interventions (Department of Health and the Devolved Administrations, 2007).

The amount of alcohol consumed by interviewees ranged considerably. A couple of interviewees said they consumed no alcohol, while others said they drank occasionally as a treat or during a special occasion like Christmas. Others still drank four or five beers per day, which is over the recommended daily limit for alcohol consumption (Department of Health, 2008) and reflects previous findings showing that drug treatment clients do not always reduce alcohol consumption in line with a reduction in the consumption of other substances (Gossop et al., 2003).

Relationships and social support

In general interviewees had strong social support networks through their family and/or friends. Some were in long term relationships which had provided support over the years, and others had good supportive relationships with their children:

"Four boys and a girl. And we're all pretty close. They're very supportive."

"I'm very close to my family, a very supportive family."

Interviewees also talked about having good friends with which they could socialise:

"But if they [friends] *were having a party in the house I'd always get invited there. And I'd go sometimes, y'know, say hello and all that."*

A prevalent attitude was that other drug users the interviewees used to spend time with were not true friends, but merely associates who stuck together because they used drugs:

"I was worried about my friends at first, like, but as I said, not friends, drug users they were."

"I went through a middle period where I was on the street a lot and most of the people that, when I started getting treatment, that I used to knock about with, in fact weren't friends. Y'know they were sort of getting high acquaintances."

Conversely, a minority of interviewees talked about largely being alone. For one interviewee, this situation was perfectly acceptable because they enjoyed their own company:

"*I like my own company. I'm not a sociable person. I can't stand chit-chat and small talk. I find it really, really boring. It's not just because of my drugs, I always have been a bit of a loner."*

While for a second interviewee, spending a lot of time alone was not through choice:

"I do spend quite a bit of time alone which I don't really like, being alone…I'm much happier if I've got a partner cos I do feel a bit lonely from time to time."

The fact that interviewees generally had good social support structures is encouraging; strong social networks are important for older people, particularly for their mental well being (Gray, 2009), and previous qualitative research conducted in Merseyside with older drug users had found that few of them were still in contact with their family or non drug using friends (Beynon et al., 2009).

Accommodation

Every interviewee felt that their accommodation was stable and they had no concerns regarding being unable to stay in their current location. Some interviewees had lived at their current address for many years. Equally important, interviewees said that their accommodation was clean and warm and that the facilities were good. Typical comments included:

"It's been a nice flat… We've been able to wash, keep warm and it's been a nice flat in fact. Yeah, it's been good."

"It's a nice one-bedroom little flat that's easy to keep clean and it's in a good location. It's quiet."

The only negative comment in relation to their accommodation was about local residents:

"It's gangs of teenagers that terrorise the citizens of the street."

Again, these findings are encouraging in light of evidence to show the importance of stable housing on a person's likelihood of recovery (HM Government, 2010). Indeed, the following quotation from an interviewee describes the effects of being homeless had on him in the past:

"I got out of jail, after a few months, came out, they didn't have anywhere for me to go. So I come out of jail with nowhere £100 and nowhere to go… And the next day I thought, in town, I thought what am I going to do tonight? I thought I'm not sleeping in no bin sheds or nothing like that. And this might sound so either sad or pathetic, which way that you look at it, I thought I'm not having it. I'm better off in jail. That's the way I looked at it. So what did I do, I walked right into a shop, I

picked £35 pairs of jeans right off the rack, pulled it on over and walked right out the shop. And waited outside the shop for the store detective to come out and nick me."

Physical and mental health

Ageing is associated often with deteriorating health and as a group, interviewees reported a number of health challenges. While a couple of interviewees rated their health as 'pretty good', others were not so positive. When asked specifically about their health, interviewees' comments included, for example:

"My health's gone downhill really bad."

"Bad, really bad. As in out of ten, minus five. That's how bad I feel."

Interviewees described a range of ailments including circulatory and respiratory problems, joint and back pain, leg cramps, weight management issues, skin problems, liver cirrhosis, headaches, osteoarthritis and osteoporosis. Interviewees mentioned past experiences of abscess, ulcers, swollen legs and deep vein thrombosis, all consistent with injecting drug use. When asked about their vein health, participants discussed the problems they had finding a suitable vein to inject into:

"Well I've been everywhere but you get to a point where you're running out of places that are suitable anymore."

"It's like a trial and error, it takes you weeks to find somewhere good, then when you've got it, you'll abuse it, you'll lose it."

People injected into their arms, their wrists and their groin and switched sites according to need. One long term groin injector said, for example:

"There's nowhere else to go."

While another commented:

"I lost the ones in my arms over the years, so I can't use those anymore."

However, this second person also stated that his vein health had been identified as pretty good:

"The other girl who helps her, I'm not sure if it's [member of staff's name], *my veins were so clean and that, that she was wondering if I was using my script. So I must have ended up with a reasonably set of ... clean set of veins. So if I can keep it that way, that suits me fine."*

Most interviewees said that they now injected at home alone but had previously engaged in riskier injecting practices and had shared used injecting equipment, supporting previous research to show that people will knowingly inject with another's needles and syringes when they do not have their own (Beynon et al., 2010b):

"And I didn't know I was getting a shared needle at the time because he give me it like, it was only when I looked at it closely that I'd notice it had been used before. But being a drug user you don't care you just want that hit."

Interviewees had been careful previously and had injected with a partner or a small group of friends but still occurrences of sharing of injecting paraphernalia had occurred:

"Oh yeah, I've done plenty of that. Done plenty of sharing, yeah…It wasn't willy nilly, you tend to stick to the same people when you're going out scoring. Because he's watching your back, you're watching his back and so if you can trust him it helps."

Consequently, a number of interviewees said they had hepatitis C, while others said they had cleared the virus. One man said he had been treated for hepatitis C but unfortunately this had been unsuccessful. While approximately 20% of people who are infected with the hepatitis C virus get rid of it naturally (Department of Health, 2004), only about 40% of people who are treated with ribavirin and interferon clear the virus and this combination therapy is associated with anaemia and several other adverse reactions (Brok et al., 2010). The majority of interviewees also said that they had previously had hepatitis B which they said had naturally cleared. One interviewee said that he was HIV positive but was not taking any medication for this infection because the medication had made it difficult to eat and sleep, nor was he going for his six-monthly check ups.

Respiratory problems were also discussed by interviewees, the main one being problems breathing consistent with chronic obstructive pulmonary disease (COPD). For some, the inability to breath properly was frightening and had reduced the quality of their lives:

"And anything that involves any effort now brings on the fighting for breath. It's terrible, very frightening. Very frightening…. Big impact. Big impact. Total impact. Really is."

These breathing difficulties caused mobility problems, making it difficult for people to leave the house on occasions and to get about:

"Can't walk too far cos I can't breathe proper."

"Well I have to walk to the chemist to pick up my script but I just take it so easy now, whereas before.... I mean I used to like walking. I've got a dog, walk the dog everywhere. Me and the wife, if we were going downtown we wouldn't get a bus, we'd walk. If, going to my daughter's, and she lives three mile away, we'd walk. But now it's something I have to think about. I never give it a thought before, it's just that's what you'd do, we just walked."

Despite these breathing problems and the fear it caused, one man said that he walked about ten miles a day because he needed to get about including having to collect his methadone prescription daily. He could not afford to use the bus. Conversely, another man, who rated his health as good, walked for pleasure:

"So I have a lot of exercise. I walk at least six miles every day, during the course of the day. Taking the dog out twice. And other things. And then at the weekend I do it properly. I walk for miles and miles."

Interviewees were asked to complete the Hospital Anxiety and Depression Scale, a validated questionnaire used to identify the existence and severity of anxiety and depression. Scores of 11 or above indicate anxiety/depression, while scores of eight, nine or ten indicate possible anxiety/depression (Snaith, 2003). This assessment identified six interviewees with abnormal anxiety scores (scores ranged from 11 to 16) and one who was recorded as borderline for anxiety (a score of eight). One interviewee had a depression score of 13 indicating the presence of depression while three others were identified as being borderline for depression (scores of eight, eight and ten). Interviewees discussed clinical symptoms of anxiety and depression including mood swings, panic attacks and paranoia:

"Swings and roundabouts really. I get quite paranoid and have delusions about things and that's when I sort of withdraw and don't do a lot and go and see my psychiatrist or get some, not anti-depressants, what are they called? Diazepam which helps me."

"Yeah. I'm panicking. And when I go out in the morning to get my script, I'm thinking 'I hope I don't bump into anybody, please don't let me bump into anybody, please, please, please' and all that. I just can't handle it…. you could say I'm paranoid but I feel like people are staring at me all the time."

When asked if they looked forward to things happening in the future, comments included:

"Sometimes I feel so helpless and down, I can't seem to look forward. I just can't seem to look forward. And that frightens me as well."

"Hardly at all now that the kids have grown up and I haven't got a partner."

Diet

While a couple of interviewees said that their diet was good, with one man saying that his diet was very good and that he enjoyed cooking, this was not the norm. Generally interviewees had very poor diets both in terms of the quantity and quality of the food they consumed and typical comments about their diet included:

"Not very good at all. Single man, doesn't really cook. I've got some pot noodles and fry-ups and all the wrong sort of food. Should eat more fruit."

"Instead of say having your tea, we'll have cornflakes or something like that."

"I boil an egg or heat a tin of soup or stuff like that. But starting from scratch with veg and - no, no."

While some interviewees were simply not that interested in food, others did not eat much because they could not afford to do so:

"You can't have what you haven't got. But yeah, I could eat three meals a day quite easy. And snacks in between – if I had the money. And when I'm working I do."

"Well, yeah, been eating less really and I'm not eating healthy because I can't afford to go to the shops and eat healthily. It's too expensive, it really is. Can't afford to."

For some people, their diet was related to dental problems, for example having no teeth and dentures that did not fit properly:

"I could do better, yeah. Could do better. I certainly need to eat more fruit and vegetables especially cos unless I cut vegetables up small, I just can't eat them."

Nutrition is important for health, and providing older people with advice on dental health is an important consideration in terms of enabling them to eat well (Department of Health, 2001). Some interviewees had a dentist but had not had a check up for a number of years while others reported not being registered with one. The majority of interviewees had dentures.

Service contact

In general, interviewees were very complimentary about the Lodge:

"Y'know if you're willing to come to the appointments and that that they give you, well it's there for you, yeah. Definitely. I think it's brilliant. Absolutely brilliant… Can't complain at all. And they're really nice people. I never met one person that I haven't liked. They're really caring people."

"I think it's excellent what they do for us, yeah. I haven't got a complaint at all, yeah. Think it's great."

"I think the drug service, especially over here, is really good."

"I have to say that in general the service has treated me very well and is fit for purpose. The harm reduction unit have been remarkably friendly. Always. Non-judgemental. Extremely professional. Specifically both my caseworker and his supervisor who is the medical clinical director [names Doctor] *of this facility, has treated me fairly, with compassion, and at all times utterly professionally. I've a very good relationship with them."*

However, interviewees were not always so complimentary about the care they had received within other services:

"I find a lot of people in chemists, pharmacists, look down on you, like your scum and I don't agree with that. I don't agree with that."

"So it's a pretty hard fight, you have to have with these people… I've walked in some Doctors' offices like, and they just instantly think you're trying to con them out of drugs."

That drug users experience stigmatisation is not a new phenomena and has previously been reported by older drug users (Beynon et al., 2009).

Review of medical notes

Only seven of the ten interviewees consented to the research team having access to their medical information in order to identify what health checks had recently been undertaken. Furthermore, one of the seven research forms contained no information. A lack of information could mean that these checks have not been undertaken, possibly because medical staff had decided that they were unnecessary (possibly because such tests were being conducted elsewhere by another healthcare practitioner) or alternatively, a lack of information could mean that the tests were offered but had been refused by the client. While the forms detailing medical notes on interviewees were relatively informative in terms of what tests had been conducted, it was not always clear whether such tests had been carried out recently and if not, why this was the case. We therefore conclude that our approach was not an effective method for reviewing medical notes and a more structured audit would be necessary in order to assess the extent and timeliness of healthcare checks for older drug users.

In relation to older drug users, the clinical guidelines highlight chronic airways disease and chronic lung damage as likely outcomes of long term drug use (Department of Health and the Devolved Administrations, 2007), a finding supported by our interviews and previous qualitative research with older drug users (Beynon et al., 2009). Long term drug use is also likely to increase the risk of cardiovascular disease (Department of Health and the Devolved Administrations, 2007). The management of these long term conditions should be considered alongside those assessments and interventions offered to younger drug users.

Conclusions

Like Cheshire and Merseyside as a whole (Beynon et al., 2007), the proportion of men and women aged 50 and over accessing agency based needle and syringe programmes in Wirral has increased significantly since 1992, though the actual number continues to be relatively small. Approximately one third of all injectors in contact with agency based needle and syringe programmes in Wirral who are aged 50 and over are not in contact with drug treatment services and may therefore be receiving no healthcare in relation to their drug use.

The people who participated in the interviews were relatively stable in terms of their drug use with the use of illicit drugs being low and/or infrequent. Furthermore, they were housed in stable and relatively good quality accommodation and the majority had supportive relationships with friends and/or family. According to the new Drug Strategy, the three strands of recovery are wellbeing, citizenship and freedom from dependence and so the focus is very much about supporting people to

live a drug free life (HM Government, 2010). However, interviewees commented that it was their opiate substitution prescription that had enabled them to achieve a level of stability in their lives and that taking this prescription away would 'have a devastating effect'; these opinions should not be ignored within the current zeal for abstinence.

Blood borne viruses, problems accessing veins, respiratory problems, anxiety and depression featured in the narratives of interviewees as did a range of other ailments. However, in general the health of interviewees was better than that reported by drug users aged 50 and over in other areas of Merseyside (Beynon et al., 2009), but both samples were small and may not be representative of all older drug users or indeed, all older drug users in treatment. What is clear is that older drug users require access to primary healthcare, and in Wirral this appears to be a function undertaken by the Lodge. Previous research has demonstrated that some older drug users feel embarrassed when they access services predominantly accessed by younger people (Beynon et al., 2009) and it is not yet clear how best to support older drug users.

In relation to the final aims of this research, we conclude that our feasibility investigation into a methodology for assessing the healthcare provided to older drug users was less effective than anticipated. This was because it was difficult to ascertain what the information meant in terms of the extent and timeliness of healthcare checks for participants. A more structured audit would be necessary in order to provide this information. Finally, this report will be disseminated to healthcare practitioners in Wirral and to the wider community in order to both raise awareness of the existence of older drug users and to raise awareness of their specific health challenges.

Acknowledgements

The authors would like to thank the people who agreed to be interviewed and for the staff at the Lodge for supporting this research. We would also like to thank Adam Marr and Martin Chandler for providing information on drug treatment data and needle and syringe programme data respectively. Finally, thanks are extended to Jim McVeigh and Beccy Harrison for their comments on this report.

References

Beynon CM, McVeigh J and Roe B (2007). Problematic drug use, ageing and older people: trends in the age of drug users in northwest England. *Ageing & Society*, **27**, 799-810.

Beynon CM, Roe B, Duffy P and Pickering L (2009). Self reported health status, and health service contact, of illicit drug users aged 50 and over: a qualitative interview study in the United Kingdom. *BMC Geriatrics*, **9**, 45.

Beynon C, McVeigh J, Hurst A and Marr A (2010a). Older and sicker: changing mortality of drug users in treatment in the North West of England. *International Journal of Drug Policy*, **21**, 429-31.

Beynon CM, Taylor A, Allen E and Bellis MA (2010b). Visual versus written cues: a comparison of drug injectors' responses. Have surveys using the written word underestimated risk behaviours for hepatitis C? *Journal of Substance Use and Misuse*, **45**, 1491-508.

Brok J, Gluud LL, Gluud C (2010). Ribavirin plus interferon versus interferon for chronic hepatitis C. *Cochrane Database of Systematic Reviews 2010, Issue 1*. Art. No.: CD005445. DOI: 10.1002/14651858.CD005445.pub2.

Department of Health (2001). *National service framework for older people*. London: Department for Health.

Department of Health (2004). *Hepatitis C Action Plan for England*. London: Department of Health.

Department of Health (England) and the Devolved Administrations (2007). *Drug misuse and dependence: UK guidelines on clinical management.* London: Department of Health (England), the Scottish Government, Welsh Assembly Government and North Ireland Executive.

Department of Health (2008). *Safe, sensible, social – consultation on further action*. London: Department of Health.

European Monitoring Centre for Drugs and Drug Addiction (2008). *Substance use among older adults: a neglected problem.* Lisbon: European Monitoring Centre for Drugs and Drug Addiction.

Gossop M, Marsden J, Stewart D and Kidd T (2003). The National Treatment Outcomes Research Study (NTORS): 4-5 year followup results. *Addiction*, **98**, 291-303.

Gray A (2009). The social capital of older people. *Ageing & Society*, **29**, 5-31.

HM Government (2010). *Drug strategy 2010. Reducing demand, restricting supply, building recovery: supporting people to live a drug free life*. London: Home Office.

Hurst A (2009). Health and social consequences. In C Shaw, A Hurst, J McVeigh and M Bellis (eds), *Indications of Public Health in the English Regions, 10 Drug Use*. York: Association of Public Health Observatories.

Hurst A, Marr A, McCoy E, McVeigh J and Bellis MA (2010). *Drug and alcohol treatment in the North West of England 2008/09. Results from the National Drug Treatment Monitoring System (NDTMS)*. Liverpool: Centre for Public Health, Liverpool John Moores University.

Snaith RP (2003). The Hospital and Anxiety Depression Scale. *Health and Quality of Life Outcomes*, **1**, 29.

Tacke U, Wolff K, Finch E and Strang J (2001). The effect of tobacco smoking on subjective symptoms of inadequacy ("not holding") of methadone dose among opiate addicts in methadone maintenance treatment. *Addiction Biology*, **6**, 137-45.

Centre for Public Health
Research Directorate
Faculty of Health & Applied Social Sciences
Liverpool John Moores University
Henry Cotton Building, 2nd Floor
15-21 Webster Street
Liverpool
L3 2ET
United Kingdom

T: 0151 231 4511
W: www.cph.org.uk

May 2011

ISBN: 978-1-908029-60-7 (web)