

**Title:** Community pharmacist experiences of providing needle and syringe programmes in Ireland

**Author Names and Affiliations:**

**Author 1:** Mr. Jim McVeigh (b), Centre for Public Health, Liverpool John Moores University, United Kingdom. Email: [J.McVeigh@ljmu.ac.uk](mailto:J.McVeigh@ljmu.ac.uk)

**Author 2:** Ms. Evelyn Hearne (a), School of Health Sciences, Waterford Institute of Technology, Waterford, Ireland. Email: [ehearne@wit.ie](mailto:ehearne@wit.ie)

**Author 3:** Mr. Geoff Bates (b), Centre for Public Health, Liverpool John Moores University, Liverpool, United Kingdom. Email: [G.Bates@ljmu.ac.uk](mailto:G.Bates@ljmu.ac.uk)

**Author 4:** Dr Marie Claire Van Hout (a), School of Health Sciences, Waterford Institute of Technology, Waterford, Ireland. Email: [mcvanhout@wit.ie](mailto:mcvanhout@wit.ie)

**Corresponding Author:** Dr Marie Claire Van Hout (a), School of Health Sciences, Waterford Institute of Technology, Waterford, Ireland. Email: [mcvanhout@wit.ie](mailto:mcvanhout@wit.ie)

**Conflict of Interest:** Authors declare no conflict of interest.

### **Article Highlights**

- Community pharmacists can provide quality harm reduction support to drug users via needle and syringe programmes (NSP).
- 30 interviews were conducted with pharmacists as part of the national evaluation of the Irish Pharmacy Needle Exchange (PNEX) programme.
- Pharmacist experiences illustrated the positive nature of providing NSP although some concerns regarding the client group remain
- Pharmacists highlighted needs to further develop harm reduction training for pharmacists.
- There is a need for appropriate strategies to raise awareness and meet service user specific needs.

## Article Synopsis

Community pharmacists are acknowledged as under-utilized, important and accessible health providers in providing harm reduction support to drug users via needle and syringe programmes (NSP). We conducted 30 interviews with pharmacists in order to understand and illustrate pharmacist experiences of providing NSP. In the main, pharmacist's experiences illustrated the positive nature of providing NSP, and highlighted needs to develop harm reduction training for pharmacists and appropriate strategies to raise awareness, provide exchange packs to meet the specific needs of people who inject drugs and ensure the development of trusting relationships and opportunities to engage within a confidential service.

## **Abstract**

**Background:** Community pharmacists are increasingly acknowledged as under-utilized, important and accessible health providers in providing harm reduction support to drug users via needle and syringe programmes (NSP), provision of advice, HIV/Hepatitis testing and as referral mechanism to social, medical and treatment services. We report here on qualitative findings as part of the evaluation of the pilot Pharmacy Needle Exchange (PNEX) programme in Ireland.

**Objectives:** The aim was to understand and illustrate pharmacist experiences of providing NSP.

**Methods:** Of the 107 eligible pharmacies, a total of 70 participated in the national evaluation. Telephone interviews (n=17) and one-to-one interviews (n=13) using a semi-structured guide were conducted with 30 pharmacists. Analysis of data was conducted using the Empirical Phenomenological Psychological (EPP) five step protocol.

**Results:** Pharmacist experiences illustrated the largely positive nature of providing NSP, and highlighted needs to develop harm reduction training for pharmacists and appropriate strategies to raise awareness, provide exchange packs to meet the specific needs of the diverse populations of people who inject drugs and ensure the development of trusting relationships and opportunities to engage within a confidential service.

**Conclusions:** Further enhancement of NSP coverage and targeted service delivery within national care pathways for drug and alcohol services is warranted.

## **Key Words**

Needle and syringe programme, opiate users, injecting drug users, harm reduction

## Introduction

Community pharmacists are increasingly acknowledged as under-utilized, important and accessible health providers to drug users, including people who inject drugs (PWID), and most particularly in combatting the transmission of HIV and other blood-borne virus (BBV) infection.<sup>1,2</sup> A mix of needle and syringe programme (NSP) models such as fixed location, mobile/outreach and community pharmacy based can optimize service user access to harm reduction services.<sup>3-5</sup> Given their unique and accessible position in the community, pharmacists and pharmacy staff are ideally positioned to reach PWID, who are covert, have concerns around anonymity and who become “more visible” when accessing community service settings such as pharmacies.<sup>1,6</sup> The advantages of community pharmacy based NSP include longer opening hours, convenience, contact with health professionals, ability to engage with small numbers of service users in one place, and facilitate referral onto addiction and other medical services.<sup>7</sup> Harm reduction roles for community pharmacists include the provision of injecting equipment, dispensing methadone for treatment of opiate dependents and sale/supply of condoms. NSP provided in community pharmacies demonstrate considerable benefits for PWID and the public.<sup>8,9</sup> NSP initiation is reported to be inversely associated with obtaining syringes at pharmacies and reporting needle sharing.<sup>10</sup> Convenience, reduced stigma and anonymity for PWID in accessing sterile injecting equipment, onsite HIV and Hepatitis C testing in pharmacies, provision of harm reduction advice, referrals to social (housing and eligibility assistance) and medical services, and entry and retention in detoxification programmes are also reported.<sup>1,11-17</sup> Other studies report reduced heroin use, criminal activity, and HIV infection rates, and the positive engagement with social drug users vulnerable to developing high risk behaviours.<sup>18-20</sup> Marked declines in the incidence of HCV infection are reported where targeted risk reduction efforts for the prevention of HIV were implemented.<sup>21</sup> There is currently limited evidence regarding the pharmacy as a setting for BBV services, however in the UK dry blood spot testing for HCV in the pharmacy has been successfully offered in the pharmacy and linked into vaccination, referral and treatment pathways.<sup>22</sup> In the United Kingdom, NICE guidance recommends the commissioning of integrated care pathways for PWID.<sup>23</sup> Community pharmacy-based NSP complement fixed and outreach based models as they facilitate access to different populations of injecting drug users.<sup>3,7</sup> More recently in 2015/2016, emergent trends in injecting of performance and image enhancement drugs and new psychoactive substances warrant continued provision of harm reduction services in community pharmacy.<sup>24</sup>

It is important to understand the experiences of pharmacists providing the service to ensure continued engagement and effective service provision for those already accessing services, whilst also increasing access for other PWID not currently engaging. Matheson et al.<sup>25</sup> in their

study in Scotland reported how addressing negative attitudes could encourage greater pharmacy participation in provision of NSP services, and also enhance the service delivery itself. In a later study, Matheson et al.<sup>14,26</sup> also described how increased exposure to PWID can stimulate positive attitude change, and how changes in pharmacy practices can enhance provision efficiency in terms of pharmacist laying down of ground rules with service users, requiring identification, pre-prepared packs, and providing verbal advice and leaflets around harm reduction. Their studies also noted a doubling in uptake of drug misuse training following implementation of the service. Matheson et al reported in 2016<sup>27</sup> that pharmacy workforce attitudes and service user engagement with the needle exchange process could further improve over time, and do require greater embedding within addiction teams.

NSP services were first provided in Ireland in 1989 in the former Eastern Health Board AIDS Resource Centre in Dublin, in response to the heroin problem in the capital at the time.<sup>7</sup> Ireland reports the highest rate of heroin use in Europe with just over 7 cases per 1000 population.<sup>28</sup> Most recent National Drug Treatment Reporting System (NTDRS) data estimates that there are between 18,136 and 23,576 opioid users resident in Ireland.<sup>28</sup> Small increases were evident in numbers reporting opioids as primary and secondary problematic drug, with increases most notable in the older drug using population.<sup>29</sup> Opioid use prevalence among Irish females has increased since 2001.<sup>28</sup> Irish Focal Point data for 2012 indicated that 3,971 of those entering treatment reported opioids, mainly heroin as their primary problem drug, with 45% reporting injecting use. In 2012 injecting drug use (IDU) accounted for 76% of all Hepatitis C virus diagnoses.

The National Drugs Strategy 2009 – 2016 has highlighted the limited availability of NSP services in five of the 10 Regional Drug Task Forces and in 13 out of 14 Local Drug Task Forces.<sup>30</sup> The national Pharmacy Needle Exchange (PNEX) programme commenced in 2011. The PNEX Programme is a partnership initiative between the Elton John Aids Foundation, Irish Pharmacy Union and the Health Service Executive (HSE). The development and implementation of the PNEX Programme was closely aligned with Action 34 of the National Drug Strategy 2009-2016 to “*expand the availability of, and access to needle exchange services (where required)*”. The aim of PNEX Programme was to increase access to needle and syringe exchange for people who inject drugs, and more broadly to reduce the risk of HIV and other blood borne viruses in Ireland by rolling out provision of needle exchange services within pharmacies.<sup>7</sup> Prior to the PNEX, NSP services were mainly located in the east of Ireland, and provided by statutory and voluntary agencies funded by the Health Service Executive (HSE). The PNEX programme covers

all areas outside of Co. Dublin, Co. Wicklow and Co. Kildare. Its specific aims cited directly from the recent review of needle exchange provision in Ireland by Bingham et al.<sup>7</sup> (p8) are as follows;

1. Prevent the spread of HIV and Hepatitis C through reducing their transmission by providing sterile injecting equipment
2. Prevent the development of localised bacterial infections, such as abscesses, by providing sterile injecting equipment
3. Prevent overdose through information on how to recognise it and what to do should it occur
4. Prevent the move from smoking to injecting and lower the incidence of injecting through the provision of tinfoil
5. Facilitate sterile and safe injecting through the provision of equipment, information and safer injecting training
6. Provide information on the importance and availability of HIV and Hepatitis C testing
7. Manage localised bacterial infections through referral for the provision of sterile dressing and medication (where necessary)
8. Provide information to the drug user in respect of relevant social and addiction services and refer the drug user to same when appropriate

The PNEX Programme provides sterile injecting equipment, condoms and facilitates the return of used equipment in order to prevent the spread of BBVs. Pharmacies also refer individuals to drug treatment ; BBV/testing ; Hepatitis B vaccination and homeless services. Data submitted by pharmacies to the PNEX Programme indicates that low numbers of referrals were made in 2013, suggesting that increased referrals are needed not just for specialist groups but for all clients accessing pharmacy needle exchanges.

The research was undertaken as part of the national evaluation of the three year pilot stage of the PNEX in 2014. The PNEX at the time of the evaluation reported 26,196 needle exchange transactions, with approximately 600-1100 unique individuals attending each month, of which 70% were males (mean age 32 years) and 30% females (mean age 30 years). In the vast majority of transactions the service user injected opioids. In small numbers of transactions only, service users were recorded as injecting anabolic steroids, tanning agents and cocaine/ amphetamines. Specific referrals to treatment services (n=436), BBV testing (n=402) and Hepatitis B vaccinations (n=262), and an additional 74 referrals to other unspecified services were recorded. We report here on the qualitative element of the evaluation conducted with pharmacists in order to understand and illustrate pharmacist experiences of toward providing needle exchange services.

## **Material and Methods**

The national evaluation of the three year pilot stage of the PNEX was conducted in 2014. This involved a mixed method approach using a national survey and interviews conducted with pharmacists, and service users. All pharmacies participating in the PNEX programme in April 2014 were eligible to take part in the evaluation. The aims of the evaluation were to:

1. To understand client and stakeholder satisfaction with needle exchange and attitudes towards and experiences of, these services.
2. To provide data relating to safer injecting, safer sexual behaviour and the prevalence of blood borne viruses that can be used in comparison to international literature and can be measured against in future evaluations.
3. To provide recommendations regarding the development and delivery of services and policy.

The Irish Pharmacy Union and the PNEX Programme contacted pharmacies participating in the programme to inform them of the purpose of the project and their support for it. The research team contacted eligible pharmacies participating in the PNEX programme via email with follow-up telephone call, and asked pharmacists to complete the online survey, participate in an interview with a member of the research team and encourage service users to take part in the research through interviews. Non-responding pharmacies were contacted by telephone on a minimum of two further occasions and asked to participate in the study.

In terms of the qualitative element of the research, of the 107 eligible pharmacies participating in the PNEX programme, 30 pharmacists (9 males and 21 females) located across Ireland agreed to partake in the interviews. Reasons for not participating included refusal, the NSP service was not yet operational or had ceased to operate and that NSP was operating but no clients had attended the service at the time of the evaluation.

Based on the aims 1 and 3 of the evaluation, consultation with extant literature and several meetings of the research team, a semi-structured interview guide was designed to examine pharmacist perceptions and experiences of delivering needle exchange including client profile, equipment provision, service provision, service successes, barriers towards service delivery and data monitoring processes. Interviews were conducted by author 2, a trained researcher. Ethical approval for the evaluation protocol was granted by Liverpool John Moores University, United Kingdom. Prior to agreeing a date and time for conducting interviews, participants were provided via email with information about the research objectives, informed that they would be recorded, and also their right to withdraw from the research at any time. Written consent was



given by all participants who partook in face to face interviews, with verbal consent provided via telephone. Interviews were conducted via telephone (n=17) and face to face (n=13), lasted 45-90 minutes and audio-recorded with permission.

Audio files were transcribed with the data hand coded with analysis with support from QSR NVivo 10 using the Empirical Phenomenological Psychological (EPP) five step method.<sup>31</sup> This method emphasizes an open, non-judgmental and bias free attitude to interpretation of data, with respect to the participants and is underpinned by the facilitation of the meaning of lived phenomena,<sup>31,32</sup> in this instance describing the experiences of pharmacists in providing needle exchange and interacting with service users. The steps involved the following analytical process conducted by author 4, and in consultation with author 2. The data file was read three times so as to familiarize, identify psychological phenomena and achieve an overview of the codeine misuse phenomenon in an unbiased and open manner, and in the absence of any specific hypothesis. Theoretical reflection was withheld at this step. The text was then divided into smaller meaning units (MU), without regard to syntax, included whole paragraphs to single words, and each time a new meaning, focus or topic was introduced. All MUs were subsequently transformed from the participants wording and restated in order to present significant and implicit meanings in objectivised terms. In order to obtain interpretative validity<sup>32</sup> considerable efforts were made to ensure respect of the participants' experience. The restated MUs were categorised by repeated consultation with the raw data, scrutinizing that the category itself was maintained, the understanding of what the phenomenon is (noema) and how it is expressed (noesis) and by considering specific characteristics and similarities in participant experiences of NSP provision. The generated categories were then part of an abstraction process to create more general and overarching themes through the patterns identified within related categories.

## Results

Seven descriptive themes emerged from the analysis, and we present them as follows with illustrative quotes.

### *Operation of the Needle Exchange*

In general the needle exchange service was observed by all participants to be working well in their pharmacy and creating useful points of regular and transient contact with PWID. The service was described as quick and efficient with minimal impact on the running of other pharmacy activities.

*'We are a really busy pharmacy and I did worry about if they have to wait when they come in and would that be a problem, but it's actually been really well. I think it's been*

*going a lot better than expected and we have had a lot more exchanges than expected as well.' Participant #11*

The needle exchange as point of contact in providing clean injecting equipment was deemed as important by all participants in promoting safe injecting practices as well as the dissemination of harm reduction and health related information, and provision of medical support and treatment referral from the community pharmacy. One participant observed;

*'I think the opportunity I suppose to have engagement with people that might not otherwise get opportunities to engage with healthcare professionals, it's satisfying.*  
*Participant #17*

Main street and city centre pharmacies were viewed by the majority to be better locations for providing needle exchange services, due to lack of transport for many service users. Some pharmacy needle exchanges also dispensed methadone to service users. In terms of operation of the needle exchange in the pharmacy, practical considerations included the need for pharmacy staff to be vaccinated against Hepatitis B, and the regular collecting of bins containing used needles.

#### *Service User Awareness and Uptake of the Service*

Participants described service user profiles as ranging from young drug users to older, long-term PWID. Age was viewed as difficult to determine at times, but most dates of birth supplied placed service users ranged between mid-teens to mid-forties in age. Some service users were described by participants as engaging on behalf of others. In general, male service users were perceived as more common than female. Poly substance use and issues with homelessness were reported by all participants. Some service users were described as not accessing other services, with a minority waiting to access treatment. Relapse instances were described as common amongst those receiving treatment.

*'Most are quite young. Living in hostels or some sort of subsidised housing Most of them fit into that category. They seem to have no social supports only more of that peer group. We have very few maybe over 40, 1 or 2. They don't live that long or they come off the program before that age. Quite a few foreigners, Polish, Lithuanian, European origin. More male than female, well more males seem to make the contact as opposed to the females. The females tend to be better to return them.'* Participant #2

Uptake of the needle exchange service appeared to be dependent on heroin availability in some of the community pharmacies. Half of participants commented on the need for their pharmacy to increase service user uptake. One participant observed;

*'It's ok it's just that we don't have an awful lot of clients, we've tried to address that but obviously you can't make people come to a place or location if they don't want to.'*

*Participant #24*

Increasing uptake was reported in other sites, but with no change in gender profiles. Recent changes in service user profile centred on participant observations of increasingly younger users, and members of the Irish Traveller (Gypsy) Community requesting needles for the injecting of melanotan, a synthetic tanning peptide hormone and anabolic androgenic steroids. A rise in uptake from migrant groups from Eastern Europe was observed by some pharmacy sites. Word of mouth, for the most part, was viewed as most likely to alert PWID to provision of the service, with several comments made by participants around the lack of familiarity of users with the needle exchange logo visible at pharmacy entry point. Access and continued uptake by service users was perceived to be facilitated by speedy transactions, provision of private entry in some sites, and exchanges with staff occurring in private consultation rooms.

*'Anybody who comes in wants to get out as quick as possible, you know they don't want to be hanging about they don't want anybody to see them, so fine. Now we haven't had really much hassle with anybody, everyone is fine.'* Participant #4

Participant experiences with service users were generally very positive. The majority of service users accessed the needle exchange alone. For the most part, service users were viewed to be polite, mannerly and abiding by the rules of the shop. This was viewed by participants to be grounded in verbal instruction and ground rules for acceptable behaviour provided by the pharmacist. Some minor incidents of visible intoxication and shoplifting were reported.

*'Overall they're usually quite friendly and appreciative. Sometime they're a bit agitated or in a rush, you know you can understand that, or if they're having a bad week or whatever, but like I say we've only had one or two problems.'* Participant #23

There was evidence of residual concerns and some continued mistrust of PWID. This can be seen in the comments:

*'because they have a tendency to steal, you tend to deal with them maybe quicker than you might want to ordinarily' where the participants have concerns about the honesty of the clients, the impact of multiple NSP clients on other customers'.Participant#18*

A further example can be seen in the case of a pharmacist who felt obliged to specifically ask the staff if they have *'had any incidents with clients'*, despite the lack of evidence to suggest any risk.

### *The Needle Exchange Transaction*

The needle exchange transaction itself was viewed as efficient, but in some instances hampered by poor dialogue and opportunity for engagement between pharmacist and service user, and

low return rates of used sharps. Some participants reported never receiving used packs in return for new equipment but continued to emphasise the need to advise service users on the safe disposal of used needles and equipment. Such efforts to encourage the needle exchange transaction was described by participants as contributing to increased rates of return overtime. The more middle class user (as perceived by participants) were deemed to be more responsible in returning used packs.

*'It's a prompt service, the very minute they come it's there, they are dealt with. I go through the pack with all the new customers that come in and I ask them do they have any empties so I think the service is fine, you know I'm not judgemental to them I just wish they'd bring back the packs, like they're getting it for free you know.'* Participant #5

Some comments were made that the needle exchange transactions could be improved in terms of level of engagement with the user. The exchange itself was described by the majority as a quick process, with service users appearing anxious to leave the site. Lack of interaction was generally due to service user reluctance to engage, and pharmacist lack of time caused by busy retail and dispensing environments. Some participants described visible service user impatience in waiting their turn for the needle exchange transaction. Possible reasons for this included opiate craving and the stigma of IDU.

*'We do have a '1 in' policy. So that you're not having a string of them coming in at once where it's too overpowering.'* Participant #3

Confidentiality and discretion on the part of pharmacists engaged in the needle exchange transaction was viewed as important in ensuring continued uptake of the service. Private consultation rooms were useful in promoting a confidential service. Communication between adjunct pharmacy staff (dispensing technicians and point of sale) was viewed as important in monitoring the service itself and the experience of staff. One participant observed;

*'The girls [staff] are happy with the service. I do keep a check with them ask like "have you any problems, is there anything more I can do, is there anything more we need to provide for our clients or any incidences where you have had an incident with a client".'* Participant #3

Service user information was recorded as per the protocols of providing the needle exchange service. Some participants observed that they were unsure whether the exchange was for the service user themselves, particularly when attempting to access needle exchange without 'empties', and comments were made around confirmation of identity and frequent supply of false names. Improvements in data capture and submission was viewed by one participant as warranting a specific electronic system.

*'I say to them all the time but like we never get any empties back here, never ever. But they do give me the information, their names and date of births but sure they could be anyone'. Participant #5*

### *The Needle Exchange Packs*

Many positive comments were made around the contents of the provided safe injecting kits. Pack size options were described by the majority of participants as optimising efficiency and discretion for the user, and that service users generally chose to take the 'three needle' pack. Some comments were made around encouraging use of 10 packs, in order to reduce sharing activity. Other participants disagreed with 10 packs for wastage reasons. One participant observed;

*'A lot of times they prefer the 3 packs, I think its size, portability and the lads like to stick it in their pocket rather than carry it in the pharmacy bag, they think people know what's in the bag' Participant #23*

Many participants observed that service users reported to them that needles and syringes provided are not the right size or right volume, with many describing them as too small. Some service users as a consequence were described as purchasing diabetic needles. Some requests for longer needles for groin injecting were also reported. One participant observed;

*'Well the kits are inflexible and we do get requests for alternatives in terms of needles and we only have a very inflexible set that we can give out. I think we are pharmacists after all we can dispense things up. So that would be something that could be better' Participant #9*

Some participants observed the need for provided packs to provide more alcohol wipes, citric and alternative types of needles. Tourniquets are also viewed as warranting inclusion in the pack. Three packs do not contain condoms, and this was queried by some service users. Most pharmacies reported providing the water separately, which was also viewed by some as warranting inclusion in the pack.

*'Some people ask for extra citric with the smaller packs and we don't have the citric on their own, they are all packed individually with the needles. Some people look for individual needles. We try and discourage that because we want them to take the box with them so they have something to put them into.' Participant #2*

Other comments centred on advising service users to use the small black kit in the 'three' pack for disposal and storage of used needles. Service users in some instances weren't aware that this can be used to store used needles. Having the sharps bin as separate to the provided needles was viewed as safer by some participants.

### *Relationships and Trust*

The development of a relationship based on '*respect, empathy and harm reduction*' between service users and staff was viewed by all as important in increasing uptake in the needle exchange, and reducing unsafe injecting practices. First contact characterised by friendliness on the part of the pharmacist and frontline staff was viewed by many as vital in creating the initial steps of a relationship. Other comments centred on providing support in a friendly and non-judgemental atmosphere.

*'I do think that we do establish contact with them. I think it's very important that first contact, that it's not too aggressive and gets them to back off, that its open and friendly, and I think we do that well.'* Participant #2

Use of private consultation rooms was viewed by many as important in relationship building and pharmacist assistance in dealing with service user health related queries. Despite these rooms, the needle exchange service itself was deemed by the majority as characterized by lack of interaction and the consequent speed of the process. This however was also observed to reduce the opportunity to engage in dialogue around injecting behaviours, health needs, concerns and requests for help.

*'if they come in for anything like that because they have a tendency to steal, you tend to deal with them maybe quicker than you might want to ordinarily, But it can be done pretty quickly, in other words, sometimes a raised eyebrow will tell me what they want, so I can get ahead and give it to them.'* Participant #18

Trust was viewed by participants as important in continued uptake of the service and was viewed as setting the foundation for volunteering of information from service users over time. Participants were very positive about providing the service in an efficient and discreet manner. Comments included;

*'I think they can talk to the pharmacists and they trust them well, they kind of know them at this stage'* Participant #13

### *Provision of Health Advice and Referrals*

Health advice, sexual health and wound care (advice and dressings) was offered in most sites, with at the minimum, advice leaflets in the provided packs given. General advice also centred on wetting the filter prior to injecting. The development of a series of health related questions and training on how to provide harm reduction advice around safe injecting, overdose prevention and overdose emergency actions were viewed by some as warranting development. Other needs include local referral information and provision of leafleting on HIV and hepatitis vaccination in the pharmacy. Comments included;

*'If they have obvious wounds on their hands we would assess them as they come in and say, oh look you need to go to see a doctor with that, that needs to be looked at, that's infected – things like that.'* Participant #2

*'I do try and get them to talk about their health or lack of, you know. Personal care also. Sometimes they'll tell me and sometimes they'll sit down and tell me their whole life story.'* Participant #27

The majority of pharmacies engaged with local community drug services and methadone clinics, but with all participants observing the need for greater visibility of drug and alcohol services and referral routes. Some were aware of local treatment and detoxification services and referred service users to these when requested. Waiting times at these services were viewed as detrimental to service user treatment decision-making. Comments included;

*'All we can do is recommend people to seek help and point them in directions. But we've no means of tracking whether they present or (not). We tend to see the same people the whole time, you know we might get a new person every so often and people disappear.'* Participant #20

#### *Training Needs and Support*

The majority of participants were satisfied with the needle exchange training provided. For the most part, continued training is needed on specific health related questioning and on where to refer service users to in terms of health, medical and treatment services. One participant observed;

*'what I think I'd like is a bit more information about if they want to come off, the drug using and the needles and stuff like that. But I do think it's a really good service, but there is room to improve.'* Participant #22

Some participants described needing more information and specific training on the injecting needs for steroid and synthetic tanning (melanotan) injecting.

*'Some people are using them for tan or steroids or something like that. Now I wouldn't be familiar with anything like that so I wouldn't know what to advise or how to advise.'* Participant #2

## **Discussion**

We present here the qualitative findings gathered as part of the national evaluation of the PNEX pilot in Ireland. Limitations of the study centre on the convenience sample aspects of participant recruitment, self-reporting of views and experiences, and the potential for researcher biases and idiosyncracies. Validity of the study is however optimized by the

trustworthiness of the data in verification of extensive similarities across participant narratives, and horizontal consistency and vertical consistency in the interpretation of data.<sup>32</sup>

Pharmacist experiences illustrated the positive nature of providing the service, and were encouraged by rising rates of uptake over time. Data recorded in the preceding year, indicated that numbers of people attending the needle exchange services in Irish pharmacies increased throughout 2013, suggesting that the programme was successfully engaging with PWID and increasing access to clean injecting equipment and contact with health professionals. The provision of pharmacy based needle exchanges in a variety of rural and urban settings is likely to be a key step towards achieving broad coverage across Ireland and reducing the risk of BBV transmission in Ireland. Of note is that pharmacists in their capacity as health providers are more likely to provide harm reduction services if their communities demand them.<sup>1,16-19,33-34</sup>

Pharmacist experiences illustrated the positive nature of providing needle exchange services. In contrast, findings elsewhere have illustrated more negative views, where some pharmacists have disclosed negative attitudes towards PWID and although attitudes towards the provision of services in pharmacies for PWID have generally improved in recent years they are still mixed.<sup>35-37</sup> Recent systematic reviews have underscored the general positive attitude to providing harm reduction advice in pharmacies, with common barriers centring on lack of time and specific training, fear of attracting difficult service users, insufficient remuneration, and difficulties in communicating with adjunct health providers.<sup>2</sup> Of note for this pilot programme going forward, and building on the goodwill and positive attitude toward providing NSP, is that service user perceptions of negative staff attitudes and experiences of discrimination have been associated with increased risk of needle sharing activities<sup>38</sup> and the impact of needle and syringe exchange services on BBV infection may be greater where clients engage in other health interventions in addition to needle exchange.<sup>39</sup> Equally, the attitudes of pharmacy staff towards service provision may improve with training<sup>11,16,35</sup> and with increased experience of providing services.<sup>14</sup> Where the needle exchange is a new service within the pharmacy, it might be expected that attitudes and relationships with clients improve with familiarity.<sup>14,26</sup> Tesoriero et al.<sup>15</sup> reported no increase in crime or staff/customer discomfort following implementation of needle and syringe exchange despite initial concerns. Many of the comments by participating pharmacists were positive with regard to the provision of sterile injecting equipment and were largely supportive of the actual client group. However, there was evidence of residual concerns and some continued mistrust of PWID.



Low return rates of used sharps were reported and requests for particular syringes are similar to studies conducted elsewhere.<sup>1,40-42</sup> The World Health Organisation<sup>43</sup> and National Institute for Health and Care Excellence (NICE)<sup>23</sup> emphasise that increasing the coverage of sterile injecting equipment to PWID, towards the goal of a sterile syringe and needle for every injection is of paramount importance, in the prevention of blood borne virus transmission. However, effective disposal systems for used equipment are vital for improving the safety of communities and tackling negative attitudes towards needle exchange programmes. The mixed views of pharmacy staff in this qualitative study on the best methods to encourage returns of used needles and equipment suggests that the provision of consistent information to pharmacy staff through training is required. Providing those using the needle exchange with advice and information on disposal and making it simple for them to make returns is likely to be beneficial. It is important to again consider the privacy of those clients who wish to safely dispose of their equipment in the pharmacy. With increased engagement between staff and clients in the pharmacy, it may be likely that rates of returns will improve.

Despite the speed of the needle exchange transaction itself and restriction to one service user at a time, pharmacists in this Irish study voiced intentions to develop trusting relationships and opportunities to engage with service users within a confidential service. Relationships with needle exchange service users are paramount to continued uptake, increased reach to other PWID or those users at risk of injecting, and the referrals toward ancillary social, medical and treatment services.<sup>40,44,46</sup> It is regrettable that pharmacy models in busy retail environments to a certain extent are restricted by time pressures and staff availability. Increased contact and engagement between staff and clients is likely to increase trust and improve relationships. It was reported that transactions were typically quick and, particularly with new clients, there was a reluctance to engage fully. Creating an environment where clients feel comfortable is therefore important to maximise the benefits of the service. Concerns about privacy and confidentiality have been identified as a barrier to the delivery of public health services in pharmacies<sup>37,47</sup> including to PWID.<sup>48</sup> Guidance for pharmacies in the United Kingdom states that service users and pharmacists should be able to sit down together and speak to each other without being overheard by other customers or staff. The provision of consultation rooms where clients can discuss their drug use and related health concerns with pharmacy staff may lead to increased uptake of services and improved relationships between staff and clients.

Pharmacists in this Irish evaluation expressed needs in relation to specific harm reduction training, specific promotional leaflets to raise awareness in their communities, and the provision of 'fit for purpose' exchange packs particular to the needs of their service users. For

example, in some areas, emergent trends included the injecting use of performance and image enhancement drugs, as distinct from the traditional PWID. Specific service user and staff training needs therefore appeared to centre on injecting use of steroids and tanning injections. This client group are of particular significance to needle and syringe programmes as they now account for over half of all clients the United Kingdom,<sup>49</sup> with increasing numbers also being reported in Australia<sup>50</sup> while a recent meta-analysis indicated a global lifetime prevalence of 3.3%. Perhaps of even greater concern, is the evidence from the United Kingdom relating to HIV. HIV prevalence levels of between 1.5% and 2% amongst those who inject anabolic steroids and associated drugs, the same level as people who inject heroin or crack cocaine.<sup>51-52</sup> Hepatitis B and C were also identified in this population, together with concerning levels of localized infection and injury.<sup>53</sup> Pharmacists required some training on where to refer to, and should over time nestle within an interagency approach to dealing with addiction in the community.

The epidemiology, behavior and associated risks amongst PWID is dynamic in nature. There are indications that Ireland, like the United Kingdom, will experience increases in those injecting PWIDs, a widening pharmacopeia<sup>54</sup> including anabolic steroids, growth hormones and tanning agents, together with an ever changing array of novel psychoactive substances.<sup>55</sup> It is essential that the changing profile of injectors is acknowledged and appropriate training developed and delivered

## **Conclusion**

Pharmacist experiences illustrated the positive nature of providing the needle exchange service, and highlighted needs to develop specific harm reduction training for pharmacists, implement appropriate strategies to raise awareness of the services with PWID provide injecting equipment to meet the specific needs of their diverse service users and ensure the development of trusting relationships and opportunities to engage within a confidential service.

## **Acknowledgement**

The evaluation was funded by the Elton John AIDS Foundation and Health Service Executive Social Exclusion Services. We thank the pharmacies who partook. With exception of assistance in recruitment strategy, the funders had no role in the design, collection, analysis and interpretation of the data gathered in this article, or the decision to submit for publication.

## **References**

1. Zaller N, Jeronimo A, Bratberg J, Case P, Rich JD. Pharmacist and pharmacy staff experiences with non-prescription (NP) sale of syringes and attitudes toward providing

- HIV prevention services for injection drug users (IDUs) in Providence, RI. *J Urban Health*. 2010;87:942-953.
2. Watson T, Hughes C. Pharmacists and harm reduction: A review of current practices and attitudes. *Can Pharm J (Ott)*. 2012;145:124-127. doi: 10.3821/145.3.cpj124.
  3. Cox G, Robinson J. *Needle Exchange Provision in Ireland: The Context, Current Levels of Service Provision and Recommendations. A Joint Report by the National Drugs Strategy Team and the National Advisory Committee on Drugs*. Dublin: NACD; 2008.
  4. Jones L, Pickering L, Sumnall H, McVeigh J, Bellis M.A. Optimal provision of needle and syringe programmes for injecting drug users: A systematic review. *Int J Drug Policy*. 2010;21:335-342.
  5. Jones L, Bates G, McVeigh J. *Update of NICE guidance PH18 on needle and syringe programmes: qualitative and quantitative review updates*. Liverpool John Moores University; 2014.
  6. Watters JK, Bieracki P. Targeted sampling: options for the study of hidden populations. *Soc Probl*. 1989;36:416-430.
  7. Bingham T, Harnedy N, O'Driscoll D, Keane R, Doyle J. *Review of Needle Exchange Provision in Ireland*. Dublin: Health Service Executive Ireland; 2015.
  8. Nacopoulos AG, Lewtas AJ, Ousterhout MM. Syringe exchange programs: impact on injection drug users and the role of the pharmacist from a U.S. perspective. *J Am Pharm Assoc*. 2010;50:148-57.
  9. Rudolph AE, Crawford ND, Ompad DC, et al. Comparison of injection drug users accessing syringes from pharmacies, syringe exchange programs and other syringe sources to inform targeted HIV prevention and intervention strategies. *J Am Pharm Assoc*. 2010;50:140-147.
  10. Smith DM, Werb D, Abramovitz D, Magis-Rodriguez C, Vera A, Patterson TL, Strathdee SA. Predictors of needle exchange program utilization during its implementation and expansion in Tijuana, Mexico. *Am J Addict*. 2016;25:118-24.

11. Vasudev N. Perception on sale of needles and syringes by pharmacies in Kelowna. 2002.  
Available:  
[http://archive.cbrc.net/attachments/161\\_KelownaSyringesSalesPerceptions.pdf](http://archive.cbrc.net/attachments/161_KelownaSyringesSalesPerceptions.pdf)  
Accessed June 27, 2011.
12. Stancliff S, Agins B, Rich JD, Burris S. Syringe access for the prevention of blood borne infections among injection drug users. *BMC Public Health*. 2003;3:1-6.
13. Sheridan J, Henderson C, Greenhill N, Smith A. Pharmacy-based needle exchange in New Zealand: a review of services. *Harm Reduct J*. 2005;2:10.
14. Matheson C, Bond CM, Tinelli M. Community pharmacy harm reduction services for drug misusers: national service delivery and professional attitude development over a decade in Scotland. *J Public Health*. 2007;29:350-357.
15. Tesoriero JM, Battles HB, Klein SJ, et al. Expanding access to sterile syringes through pharmacies: assessment of New York's expanded syringe access program. *J Am Pharm Assoc*. 2009;49:407-416.
16. Vorobjov S, Uuskula A, Abel-Ollo K, et al. Should pharmacists have a role in harm reduction services for IDUs? A qualitative study in Tallinn, Estonia. *J Urban Health*. 2009;86:918-928.
17. Cooper EN, Dodson C, Stopka TJ, et al. Pharmacy participation in non-prescription syringe sales in Los Angeles and San Francisco counties, 2007. *J Urban Health*. 2010;87:543-552.
18. Watson L, Bond C, Gault C. A survey of community pharmacists on prevention of HIV and hepatitis B and C: current practice and attitudes in Grampian. *J Public Health Med*. 2003;25:13-18.
19. Le P, Hotham ED. South Australian rural community pharmacists and the provision of methadone, buprenorphine and injecting equipment. *Int J Pharm Pract*. 2008;16:149-154.

20. Tsai TI, Morisky DE, Chen YM. Role of service providers of needle syringe program in preventing HIV/AIDS. *AIDS Educ Prev*. 2010;22:546-557.
21. Des Jarlais DC, Nugent A, Solberg A, Feelemyer J, Mermin J, Holtzman D. Syringe Service Programs for Persons Who Inject Drugs in Urban, Suburban, and Rural Areas - United States, 2013. *MMWR Morb Mortal Wkly Rep*. 2015;64:1337-1341.
22. Noble K, Holden M and Warner G. A solution to improving uptake of hepatitis B immunisation in at risk groups, through collaboration and adopting an integrated approach with pharmacists as service providers. *Int J Pharm Practice*. 2010;18:43.
23. National Institute of Health and Care Excellence (NICE). *Needle and syringe programmes. NICE public health guidance 52*. National Institute for Health and Care Excellence; 2014.
24. Gyarmathy VA, Csák R, Bálint K, Bene E, Varga AE, Varga M, Csiszér N, Vingender I, Rácz J. A needle in the haystack - the dire straits of needle exchange in Hungary. *BMC Public Health*. 2016;16:157.
25. Matheson C, Bond CM, Mollison J. Attitudinal factors associated with community pharmacists' involvement in services for drug misusers. *Addiction*. 1999;94:1349-1359.
26. Matheson C, Bond CM, Pitcairn J. Community pharmacy services for drug misusers in Scotland: what difference does 5 years make? *Addiction*. 2002;97:1405-1411.
27. Matheson C, Thiruvethiyur M, Robertson H, Bond C. Community pharmacy services for people with drug problems over two decades in Scotland: Implications for future development. *Int J Drug Policy*. 2016;27:105-112. doi: 10.1016/j.drugpo.2015.11.006.
28. Kelly A, Carvalho M, Teljeur C. Prevalence of opioid use in Ireland 2006: a 3-source capture recapture study. 2009: Dublin, National Advisory Committee on Drugs.
29. Carew AM, Bellerose D, Lyons S, Long J. Trends in treated problem opioid use in Ireland, 2002 to 2007. HRB Trends Series 7. Dublin: Health Research Board; 2009.
30. Department of Community, Rural and Gaeltacht Affairs. *National Drugs Strategy (interim) 2009-2016*. Dublin: Department of Community, Rural and Gaeltacht Affairs; 2009.

31. Karlsson, G. Psychological qualitative research from a phenomenological perspective. Stockholm, Sweden: Almqvist & Wiksell International; 1995.
32. Maxwell, J. A. Understanding and validity in qualitative research. *Harvard Educ. Rev.* 1992;62:279-301.
33. Rees L, Harding G, Taylor K. Supplying injecting equipment to drug misusers: a survey of community pharmacists' attitudes, beliefs and practices. *Int J Pharm Pract.* 1997;5:167-175.
34. Hall S, Matheson C. Barriers to the provision of needle-exchange services: a qualitative study in community pharmacies. *Int J Pharm Pract.* 2007;16:11-16.
35. Scott J, Mackridge AJ. Pharmacy support staff involvement in, and attitudes towards, pharmacy-based services for drug misusers. *Int J Pharm Practice.* 2009;17:325-332.
36. Mackridge AJ, Scott J. Experiences, attitudes and training needs of pharmacy support staff providing services to drug users in Great Britain: A qualitative study. *J Subst Use.* 2009;14:375-384.
37. Eades CE, Ferguson JS, O'Carroll RE. Public health in community pharmacy: A systematic review of pharmacist and consumer views. *BMC Public Health.* 2011;11:582.
38. Wilson H, Brener L, Mao L, Treloar C. Perceived discrimination and injecting risk among people who inject drugs attending Needle and Syringe Programmes in Sydney, Australia. *Drug Alcohol Depend.* 2014;144:274-278.
39. Van Den Berg C, Smit C, Van Brussel G, Coutinho R, Prins M. Full participation in harm reduction programmes is associated with decreased risk for human immunodeficiency virus and hepatitis C virus:evidence from the Amsterdam Cohort Studies among drug users. *Addiction.* 2007;102:1454-1462.
40. Lewis BA, Koester SK, Bush TW. Pharmacists' attitudes and concerns regarding syringe sales to injection drug users in Denver, Colorado. *J Am Pharm Assoc Wash.* 2002;42:S46-S51

41. Coffin PO, Ahern J, Dorris S, Stevenson L, Fuller C, Vlahov D. More pharmacists in high-risk neighborhoods of New York City support selling syringes to injection drug users. *J Am Pharm Assoc Wash.* 2002;42:S62-S67.
42. Taussig J, Junge B, Burris S, Jones TS, Sterk CE. Individual and structural influences shaping pharmacists' decisions to sell syringes to injection drug users in Atlanta, Georgia. *J Am Pharm Assoc Wash.* 2002;42:S40-S45.
43. World Health Organization (WHO). Policy brief: Provision of sterile injecting equipment to reduce HIV transmission. Geneva: World Health Organization; 2004.
44. Coffin PO, Linas BP, Factor SH, Vlahov D. New York City pharmacists' attitudes toward sale of needles/syringes to injection drug users before implementation of law expanding syringe access. *J Urban Health.* 2000;77:781-793.
45. Coffin PO, Linas BP, Factor SH, Vlahov D. New York City pharmacists' attitudes toward sale of needles/syringes to injection drug users before implementation of law expanding syringe access. *J Urban Health.* 2000;77:781-793.
46. Harbke CR, Fisher DG, Cagle HH, Trubatch BN, Fenaughty AM, Johnson ME. Telephone surveys of Alaskan pharmacists' nonprescription needle-selling practices. *J Urban Health.* 2000;77:113-120. doi: 10.1007/BF02350967.
47. Saramunee K, Krska J, Mackridge A, Richards J, Suttajit S, Phillips-Howard P. How to enhance public health service utilization in community pharmacy?: General public and health providers' perspectives. *Res Social Adm Pharm.* 2014;10:272-284.
48. Mackridge AJ, Beynon CM, McVeigh J, Whitfield M, Chandler M. Meeting the health needs of problematic drug users through community pharmacy: A qualitative study. *J Subst Use.* 2010;15:367-376.
49. Kimergard A, McVeigh J. Variability and dilemmas in harm reduction for anabolic steroid users in the UK: a multi-area interview study. *HRJ.* 2014;11;19.

50. Iversen J, Topp L, Wand H, Maher L. (). Are people who inject performance and image-enhancing drugs an increasing population of Needle and Syringe Program attendees? *Drug Alcohol Rev.* 2013;32;205-207.
51. Hope VD, Harris R, McVeigh J, Cullen KJ, Smith J, Parry JV, et al. Risk of HIV and Hepatitis B and C Over Time Among Men Who Inject Image and Performance Enhancing Drugs in England and Wales: Results From Cross-Sectional Prevalence Surveys, 1992-2013. *J Acquir Immune Defic Syndr.* 2016;71;331-337.
52. Hope VD, McVeigh J, Marongiu A, Evans-Brown M, Smith J, Kimergard A, et al. Prevalence of, and risk factors for, HIV, hepatitis B and C infections among men who inject image and performance enhancing drugs: a cross-sectional study. *BMJ Open.* 2013;3;e003207-e003207.
53. Hope VD, McVeigh J, Marongiu A, Evans-Brown M, Smith J, Kimergard A, et al. Injection site infections and injuries in men who inject image- and performance-enhancing drugs: prevalence, risks factors, and healthcare seeking. *Epidemiol Infect.* 2015;143;132-140.
54. Sagoe D, McVeigh J, Bjornebekk A, Essilfie MS, Andreassen CS, Pallesen S. Polypharmacy among anabolic-androgenic steroid users: a descriptive metasynthesis. *Subst Abuse Treat Prev Policy.* 2015;10;12.
55. Dargan P, Wood DM. *Novel Psychoactive Substances.* San Diego: Academic Press; 2013.



**Title:** Community pharmacist experiences of providing needle and syringe programmes in Ireland

**Author Names and Affiliations:**

**Author 1:** Mr. Jim McVeigh (b), Centre for Public Health, Liverpool John Moores University, United Kingdom. Email: [J.McVeigh@ljmu.ac.uk](mailto:J.McVeigh@ljmu.ac.uk)

**Author 2:** Evelyn Hearne (a), School of Health Sciences, Waterford Institute of Technology, Waterford, Ireland. Email: [ehearne@wit.ie](mailto:ehearne@wit.ie)

**Author 3:** Geoff Bates (b), Centre for Public Health, Liverpool John Moores University, Liverpool, United Kingdom. Email: [G.Bates@ljmu.ac.uk](mailto:G.Bates@ljmu.ac.uk)

**Author 4:** Dr Marie Claire Van Hout (a), School of Health Sciences, Waterford Institute of Technology, Waterford, Ireland. Email: [mcvanhout@wit.ie](mailto:mcvanhout@wit.ie)

**Corresponding Author:** Dr Marie Claire Van Hout (a), School of Health Sciences, Waterford Institute of Technology, Waterford, Ireland. Email: [mcvanhout@wit.ie](mailto:mcvanhout@wit.ie)

**Conflict of Interest:** Authors declare no conflict of interest.

## Article Synopsis

Community pharmacists are acknowledged as under-utilized, important and accessible health providers in providing harm reduction support to drug users via needle and syringe programmes (NSP). We conducted 30 interviews with pharmacists **in order to understand and illustrate pharmacist experiences of providing NSP**. In the main, pharmacist's experiences illustrated the positive nature of providing NSP, and highlighted needs to develop harm reduction training for pharmacists and appropriate strategies to raise awareness, provide exchange packs to meet the specific needs of people who inject drugs and ensure the development of trusting relationships and opportunities to engage within a confidential service.

## Article Highlights

- Community pharmacists can provide quality harm reduction support to drug users via needle and syringe programmes (NSP).
- 30 interviews were conducted with pharmacists as part of the national evaluation of the Irish Pharmacy Needle Exchange (PNEX) programme.
- Pharmacist experiences illustrated the positive nature of providing NSP although some concerns regarding the client group remain
- Pharmacists highlighted needs to further develop harm reduction training for pharmacists.
- There is a need for appropriate strategies to raise awareness and meet service user specific needs.

## Abstract

**Background:** Community pharmacists are increasingly acknowledged as under-utilized, important and accessible health providers in providing harm reduction support to drug users via needle and syringe programmes (NSP), provision of advice, HIV/Hepatitis testing and as referral mechanism to social, medical and treatment services. We report here on qualitative findings as part of the evaluation of the pilot Pharmacy Needle Exchange (PNEX) programme in Ireland.

**Objectives:** The aim **was to understand and illustrate pharmacist experiences of providing NSP.**

**Methods:** Of the 107 eligible pharmacies, a total of 70 participated in the national evaluation. Telephone interviews (n=17) and one-to-one interviews (n=13) using a semi-structured guide were conducted with 30 pharmacists. Analysis of data was conducted using the Empirical Phenomenological Psychological (EPP) five step protocol.

**Results:** **Pharmacist experiences illustrated the largely positive nature of providing NSP, and highlighted needs to develop harm reduction training for pharmacists and appropriate strategies to raise awareness, provide exchange packs to meet the specific needs of the diverse populations of people who inject drugs and ensure the development of trusting relationships and opportunities to engage within a confidential service.**

**Conclusions:** **Further enhancement of NSP coverage and targeted service delivery within national care pathways for drug and alcohol services is warranted.**

## Key Words

Needle and syringe exchange, opiate users, injecting drug users, harm reduction

## Introduction

Community pharmacists are increasingly acknowledged as under-utilized, important and accessible health providers to drug users, including people who inject drugs (PWID), and most particularly in combatting the transmission of HIV and other blood-borne virus (BBV) infection.<sup>1,2</sup> A mix of needle and syringe programme (NSP) models such as fixed location, mobile/outreach and community pharmacy based can optimize service user access to harm reduction services.<sup>3-5</sup> Given their unique and accessible position in the community, pharmacists and pharmacy staff are ideally positioned to reach PWID, who are covert, have concerns around anonymity and who become “more visible” when accessing community service settings such as pharmacies.<sup>1,6</sup> The advantages of community pharmacy based NSP include longer opening hours, convenience, contact with health professionals, ability to engage with small numbers of service users in one place, and facilitate referral onto addiction and other medical services.<sup>7</sup> Harm reduction roles for community pharmacists include the provision of injecting equipment, dispensing methadone for treatment of opiate dependents and sale/supply of condoms. NSP provided in community pharmacies demonstrate considerable benefits for PWID and the public.<sup>8,9</sup> NSP initiation is reported to be inversely associated with obtaining syringes at pharmacies and reporting needle sharing.<sup>10</sup> Convenience, reduced stigma and anonymity for PWID in accessing sterile injecting equipment, onsite HIV and Hepatitis C testing in pharmacies, provision of harm reduction advice, referrals to social (housing and eligibility assistance) and medical services, and entry and retention in detoxification programmes are also reported.<sup>1,11-17</sup> Other studies report reduced heroin use, criminal activity, and HIV infection rates, and the positive engagement with social drug users vulnerable to developing high risk behaviours.<sup>18-20</sup> Marked declines in the incidence of HCV infection are reported where targeted risk reduction efforts for the prevention of HIV were implemented.<sup>21</sup> There is currently limited evidence regarding the pharmacy as a setting for BBV services, however in the UK dry blood spot testing for HCV in the pharmacy has been successfully offered in the pharmacy and linked into vaccination, referral and treatment pathways.<sup>22</sup> In the United Kingdom, NICE guidance recommends the commissioning of integrated care pathways for PWID.<sup>23</sup> Community pharmacy-based NSP complement fixed and outreach based models as they facilitate access to different populations of injecting drug users.<sup>3,7</sup> More recently in 2015/2016, emergent trends in injecting of performance and image enhancement drugs and new psychoactive substances warrant continued provision of harm reduction services in community pharmacy.<sup>24</sup>

It is important to understand the experiences of pharmacists providing the service to ensure continued engagement and effective service provision for those already accessing services, whilst also increasing access for other PWID not currently engaging. Matheson et al.<sup>25</sup> in their

study in Scotland reported how addressing negative attitudes could encourage greater pharmacy participation in provision of NSP services, and also enhance the service delivery itself. In a later study, Matheson et al.<sup>14,26</sup> also described how increased exposure to PWID can stimulate positive attitude change, and how changes in pharmacy practices can enhance provision efficiency in terms of pharmacist laying down of ground rules with service users, requiring identification, pre-prepared packs, and providing verbal advice and leaflets around harm reduction. Their studies also noted a doubling in uptake of drug misuse training following implementation of the service. Matheson et al reported in 2016<sup>27</sup> that pharmacy workforce attitudes and service user engagement with the needle exchange process could further improve over time, and do require greater embedding within addiction teams.

NSP services were first provided in Ireland in 1989 in the former Eastern Health Board AIDS Resource Centre in Dublin, in response to the heroin problem in the capital at the time.<sup>7</sup> Ireland reports the highest rate of heroin use in Europe with just over 7 cases per 1000 population.<sup>28</sup> Most recent National Drug Treatment Reporting System (NTDRS) data estimates that there are between 18,136 and 23,576 opioid users resident in Ireland.<sup>28</sup> Small increases were evident in numbers reporting opioids as primary and secondary problematic drug, with increases most notable in the older drug using population.<sup>29</sup> Opioid use prevalence among Irish females has increased since 2001.<sup>28</sup> Irish Focal Point data for 2012 indicated that 3,971 of those entering treatment reported opioids, mainly heroin as their primary problem drug, with 45% reporting injecting use. In 2012 injecting drug use (IDU) accounted for 76% of all Hepatitis C virus diagnoses.

The National Drugs Strategy 2009 – 2016 has highlighted the limited availability of NSP services in five of the 10 Regional Drug Task Forces and in 13 out of 14 Local Drug Task Forces.<sup>30</sup> The national Pharmacy Needle Exchange (PNEX) programme commenced in 2011. The PNEX Programme is a partnership initiative between the Elton John Aids Foundation, Irish Pharmacy Union and the Health Service Executive (HSE). The development and implementation of the PNEX Programme was closely aligned with Action 34 of the National Drug Strategy 2009-2016 to “*expand the availability of, and access to needle exchange services (where required)*”. The aim of PNEX Programme was to increase access to needle and syringe exchange for people who inject drugs, and more broadly to reduce the risk of HIV and other blood borne viruses in Ireland by rolling out provision of needle exchange services within pharmacies.<sup>7</sup> Prior to the PNEX, NSP services were mainly located in the east of Ireland, and provided by statutory and voluntary agencies funded by the Health Service Executive (HSE). The PNEX programme covers

all areas outside of Co. Dublin, Co. Wicklow and Co. Kildare. Its specific aims cited directly from the recent review of needle exchange provision in Ireland by Bingham et al.<sup>7</sup> (p8) are as follows;

1. Prevent the spread of HIV and Hepatitis C through reducing their transmission by providing sterile injecting equipment
2. Prevent the development of localised bacterial infections, such as abscesses, by providing sterile injecting equipment
3. Prevent overdose through information on how to recognise it and what to do should it occur
4. Prevent the move from smoking to injecting and lower the incidence of injecting through the provision of tinfoil
5. Facilitate sterile and safe injecting through the provision of equipment, information and safer injecting training
6. Provide information on the importance and availability of HIV and Hepatitis C testing
7. Manage localised bacterial infections through referral for the provision of sterile dressing and medication (where necessary)
8. Provide information to the drug user in respect of relevant social and addiction services and refer the drug user to same when appropriate

The PNEX Programme provides sterile injecting equipment, condoms and facilitates the return of used equipment in order to prevent the spread of BBVs. Pharmacies also refer individuals to drug treatment ; BBV/testing ; Hepatitis B vaccination and homeless services. Data submitted by pharmacies to the PNEX Programme indicates that low numbers of referrals were made in 2013, suggesting that increased referrals are needed not just for specialist groups but for all clients accessing pharmacy needle exchanges.

The research was undertaken as part of the national evaluation of the three year pilot stage of the PNEX in 2014. The PNEX at the time of the evaluation reported 26,196 needle exchange transactions, with approximately 600-1100 unique individuals attending each month, of which 70% were males (mean age 32 years) and 30% females (mean age 30 years). In the vast majority of transactions the service user injected opioids. In small numbers of transactions only, service users were recorded as injecting anabolic steroids, tanning agents and cocaine/ amphetamines. Specific referrals to treatment services (n=436), BBV testing (n=402) and Hepatitis B vaccinations (n=262), and an additional 74 referrals to other unspecified services were recorded. We report here on the qualitative element of the evaluation conducted with pharmacists in order to understand and illustrate pharmacist experiences of toward providing needle exchange services.

## Material and Methods

The national evaluation of the three year pilot stage of the PNEX was conducted in 2014. This involved a mixed method approach using a national survey and interviews conducted with pharmacists, and service users. All pharmacies participating in the PNEX programme in April 2014 were eligible to take part in the evaluation. The aims of the evaluation were to:

1. To understand client and stakeholder satisfaction with needle exchange and attitudes towards and experiences of, these services.
2. To provide data relating to safer injecting, safer sexual behaviour and the prevalence of blood borne viruses that can be used in comparison to international literature and can be measured against in future evaluations.
3. To provide recommendations regarding the development and delivery of services and policy.

The Irish Pharmacy Union and the PNEX Programme contacted pharmacies participating in the programme to inform them of the purpose of the project and their support for it. The research team contacted eligible pharmacies participating in the PNEX programme via email with follow-up telephone call, and asked pharmacists to complete the online survey, participate in an interview with a member of the research team and encourage service users to take part in the research through interviews. Non-responding pharmacies were contacted by telephone on a minimum of two further occasions and asked to participate in the study.

In terms of the qualitative element of the research, of the 107 eligible pharmacies participating in the PNEX programme, 30 pharmacists (9 males and 21 females) located across Ireland agreed to partake in the interviews. Reasons for not participating included refusal, the NSP service was not yet operational or had ceased to operate and that NSP was operating but no clients had attended the service at the time of the evaluation.

Based on the aims 1 and 3 of the evaluation, consultation with extant literature and several meetings of the research team, a semi-structured interview guide was designed to examine pharmacist perceptions and experiences of delivering needle exchange including client profile, equipment provision, service provision, service successes, barriers towards service delivery and data monitoring processes. Interviews were conducted by author 2, a trained researcher. Ethical approval for the evaluation protocol was granted by Liverpool John Moores University, United Kingdom. Prior to agreeing a date and time for conducting interviews, participants were provided via email with information about the research objectives, informed that they would be recorded, and also their right to withdraw from the research at any time. Written consent was

given by all participants who partook in face to face interviews, with verbal consent provided via telephone. Interviews were conducted via telephone (n=17) and face to face (n=13), lasted 45-90 minutes and audio-recorded with permission.

Audio files were transcribed with the data hand coded with analysis with support from QSR NVivo 10 using the Empirical Phenomenological Psychological (EPP) five step method.<sup>31</sup> This method emphasizes an open, non-judgmental and bias free attitude to interpretation of data, with respect to the participants and is underpinned by the facilitation of the meaning of lived phenomena,<sup>31,32</sup> in this instance describing the experiences of pharmacists in providing needle exchange and interacting with service users. The steps involved the following analytical process conducted by author 4, and in consultation with author 2. The data file was read three times so as to familiarize, identify psychological phenomena and achieve an overview of the codeine misuse phenomenon in an unbiased and open manner, and in the absence of any specific hypothesis. Theoretical reflection was withheld at this step. The text was then divided into smaller meaning units (MU), without regard to syntax, included whole paragraphs to single words, and each time a new meaning, focus or topic was introduced. All MUs were subsequently transformed from the participants wording and restated in order to present significant and implicit meanings in objectivised terms. In order to obtain interpretative validity<sup>32</sup> considerable efforts were made to ensure respect of the participants' experience. The restated MUs were categorised by repeated consultation with the raw data, scrutinizing that the category itself was maintained, the understanding of what the phenomenon is (noema) and how it is expressed (noesis) and by considering specific characteristics and similarities in participant experiences of NSP provision. The generated categories were then part of an abstraction process to create more general and overarching themes through the patterns identified within related categories.

## Results

Seven descriptive themes emerged from the analysis, and we present them as follows with illustrative quotes.

### *Operation of the Needle Exchange*

In general the needle exchange service was observed by all participants to be working well in their pharmacy and creating useful points of regular and transient contact with PWID. The service was described as quick and efficient with minimal impact on the running of other pharmacy activities.

*'We are a really busy pharmacy and I did worry about if they have to wait when they come in and would that be a problem, but it's actually been really well. I think it's been*



*going a lot better than expected and we have had a lot more exchanges than expected as well.' Participant #11*

The needle exchange as point of contact in providing clean injecting equipment was deemed as important by all participants in promoting safe injecting practices as well as the dissemination of harm reduction and health related information, and provision of medical support and treatment referral from the community pharmacy. One participant observed;

*'I think the opportunity I suppose to have engagement with people that might not otherwise get opportunities to engage with healthcare professionals, it's satisfying. Participant #17*

Main street and city centre pharmacies were viewed by the majority to be better locations for providing needle exchange services, due to lack of transport for many service users. Some pharmacy needle exchanges also dispensed methadone to service users. In terms of operation of the needle exchange in the pharmacy, practical considerations included the need for pharmacy staff to be vaccinated against Hepatitis B, and the regular collecting of bins containing used needles.

#### *Service User Awareness and Uptake of the Service*

Participants described service user profiles as ranging from young drug users to older, long-term PWID. Age was viewed as difficult to determine at times, but most dates of birth supplied placed service users ranged between mid-teens to mid-forties in age. Some service users were described by participants as engaging on behalf of others. In general, male service users were perceived as more common than female. Poly substance use and issues with homelessness were **reported** by all participants. Some service users were described as not accessing other services, with a minority waiting to access treatment. Relapse instances were described as common amongst those receiving treatment.

*'Most are quite young. Living in hostels or some sort of subsidised housing Most of them fit into that category. They seem to have no social supports only more of that peer group. We have very few maybe over 40, 1 or 2. They don't live that long or they come off the program before that age. Quite a few foreigners, Polish, Lithuanian, European origin. More male than female, well more males seem to make the contact as opposed to the females. The females tend to be better to return them.' Participant #2*

Uptake of the needle exchange service **appeared to be dependent on** heroin availability **in some of the community pharmacies**. Half of participants commented on the need for their pharmacy to increase service user uptake. One participant observed;

*'It's ok it's just that we don't have an awful lot of clients, we've tried to address that but obviously you can't make people come to a place or location if they don't want to.'*

*Participant #24*

Increasing uptake was reported in other sites, but with no change in gender profiles. Recent changes in service user profile centred on participant observations of increasingly younger users, and members of the Irish Traveller (Gypsy) Community requesting needles for the injecting of melanotan, a synthetic tanning peptide hormone and anabolic androgenic steroids. A rise in uptake from migrant groups from Eastern Europe was observed by some pharmacy sites. Word of mouth, for the most part, was viewed as most likely to alert PWID to provision of the service, with several comments made by participants around the lack of familiarity of users with the needle exchange logo visible at pharmacy entry point. Access and continued uptake by service users was perceived to be facilitated by speedy transactions, provision of private entry in some sites, and exchanges with staff occurring in private consultation rooms.

*'Anybody who comes in wants to get out as quick as possible, you know they don't want to be hanging about they don't want anybody to see them, so fine. Now we haven't had really much hassle with anybody, everyone is fine.'* Participant #4

Participant experiences with service users were generally very positive. The majority of service users accessed the needle exchange alone. For the most part, service users were viewed to be polite, mannerly and abiding by the rules of the shop. This was viewed by participants to be grounded in verbal instruction and ground rules for acceptable behaviour provided by the pharmacist. Some minor incidents of visible intoxication and shoplifting were reported.

*'Overall they're usually quite friendly and appreciative. Sometime they're a bit agitated or in a rush, you know you can understand that, or if they're having a bad week or whatever, but like I say we've only had one or two problems.'* Participant #23

There was evidence of residual concerns and some continued mistrust of PWID. This can be seen in the comments:

*'because they have a tendency to steal, you tend to deal with them maybe quicker than you might want to ordinarily' where the participants have concerns about the honesty of the clients, the impact of multiple NSP clients on other customers'.Participant#18*

A further example can be seen in the case of a pharmacist who felt obliged to specifically ask the staff if they have *'had any incidents with clients'*, despite the lack of evidence to suggest any risk.

### *The Needle Exchange Transaction*

The needle exchange transaction itself was viewed as efficient, but in some instances hampered by poor dialogue and opportunity for engagement between pharmacist and service user, and

low return rates of used sharps. Some participants reported never receiving used packs in return for new equipment but continued to emphasise the need to advise service users on the safe disposal of used needles and equipment. **Such efforts to encourage the needle exchange transaction was described by participants as contributing to increased rates of return overtime.** The more middle class user (as perceived by participants) were deemed to be more responsible in returning used packs.

*'It's a prompt service, the very minute they come it's there, they are dealt with. I go through the pack with all the new customers that come in and I ask them do they have any empties so I think the service is fine, you know I'm not judgemental to them I just wish they'd bring back the packs, like they're getting it for free you know.'* Participant #5

Some comments were made that the needle exchange transactions could be improved in terms of level of engagement with the user. The exchange itself was described by the majority as a quick process, with service users appearing anxious to leave the site. Lack of interaction was generally due to service user reluctance to engage, and pharmacist lack of time caused by busy retail and dispensing environments. Some participants described **visible** service user impatience in waiting their turn **for the needle exchange transaction. Possible reasons for this included opiate craving and the stigma of IDU.**

*'We do have a '1 in' policy. So that you're not having a string of them coming in at once where it's too overpowering.* Participant #3

**Confidentiality and discretion on the part of pharmacists engaged in the needle exchange transaction was viewed as important in ensuring continued uptake of the service. Private consultation rooms were useful in promoting a confidential service.** Communication between adjunct pharmacy staff (dispensing technicians and point of sale) was viewed as important in monitoring the service itself and the experience of staff. One participant observed;

*'The girls [staff] are happy with the service. I do keep a check with them ask like "have you any problems, is there anything more I can do, is there anything more we need to provide for our clients or any incidences where you have had an incident with a client".'* Participant #3

Service user information was recorded as per the protocols of providing the needle exchange service. Some participants observed that they were unsure whether the exchange was for the service user themselves, particularly when attempting to access needle exchange without 'empties', and comments were made around confirmation of identity and frequent supply of false names. Improvements in data capture and submission was viewed by one participant as warranting a specific electronic system.

*'I say to them all the time but like we never get any empties back here, never ever. But they do give me the information, their names and date of births but sure they could be anyone'. Participant #5*

### *The Needle Exchange Packs*

Many positive comments were made around the contents of the provided safe injecting kits. Pack size options were described by the majority of participants as optimising efficiency and discretion for the user, and that service users generally chose to take the 'three needle' pack. Some comments were made around encouraging use of 10 packs, in order to reduce sharing activity. Other participants disagreed with 10 packs for wastage reasons. One participant observed;

*'A lot of times they prefer the 3 packs, I think its size, portability and the lads like to stick it in their pocket rather than carry it in the pharmacy bag, they think people know what's in the bag' Participant #23*

Many participants observed that service users reported to them that needles and syringes provided are not the right size or right volume, with many describing them as too small. Some service users as a consequence were described as purchasing diabetic needles. Some requests for longer needles for groin injecting were also reported. One participant observed;

*'Well the kits are inflexible and we do get requests for alternatives in terms of needles and we only have a very inflexible set that we can give out. I think we are pharmacists after all we can dispense things up. So that would be something that could be better' Participant #9*

Some participants observed the need for provided packs to provide more alcohol wipes, citric and alternative types of needles. Tourniquets are also viewed as warranting inclusion in the pack. Three packs do not contain condoms, and this was queried by some service users. Most pharmacies reported providing the water separately, which was also viewed by some as warranting inclusion in the pack.

*'Some people ask for extra citric with the smaller packs and we don't have the citric on their own, they are all packed individually with the needles. Some people look for individual needles. We try and discourage that because we want them to take the box with them so they have something to put them into.' Participant #2*

Other comments centred on advising service users to use the small black kit in the 'three' pack for disposal and storage of used needles. Service users in some instances weren't aware that this can be used to store used needles. Having the sharps bin as separate to the provided needles was viewed as safer by some participants.

### *Relationships and Trust*

The development of a relationship based on '*respect, empathy and harm reduction*' between service users and staff was viewed by all as important in increasing uptake in the needle exchange, and reducing unsafe injecting practices. First contact characterised by friendliness on the part of the pharmacist and frontline staff was viewed by many as vital in creating the initial steps of a relationship. Other comments centred on providing support in a friendly and non-judgemental atmosphere.

*'I do think that we do establish contact with them. I think it's very important that first contact, that it's not too aggressive and gets them to back off, that its open and friendly, and I think we do that well.'* Participant #2

Use of private consultation rooms was viewed by many as important in relationship building and pharmacist assistance in dealing with service user health related queries. Despite these rooms, the needle exchange service itself was deemed by the majority as characterized by lack of interaction and the consequent speed of the process. This however was also observed to reduce the opportunity to engage in dialogue around injecting behaviours, health needs, concerns and requests for help.

*'if they come in for anything like that because they have a tendency to steal, you tend to deal with them maybe quicker than you might want to ordinarily, But it can be done pretty quickly, in other words, sometimes a raised eyebrow will tell me what they want, so I can get ahead and give it to them.'* Participant #18

Trust was viewed by participants as important in continued uptake of the service and was viewed as setting the foundation for volunteering of information from service users over time. Participants were very positive about providing the service in an efficient and discreet manner. Comments included;

*'I think they can talk to the pharmacists and they trust them well, they kind of know them at this stage'* Participant #13

### *Provision of Health Advice and Referrals*

Health advice, sexual health and wound care (advice and dressings) was offered in most sites, with at the minimum, advice leaflets in the provided packs given. General advice also centred on wetting the filter prior to injecting. The development of a series of health related questions and training on how to provide harm reduction advice around safe injecting, overdose prevention and overdose emergency actions were viewed by some as warranting development. Other needs include local referral information and provision of leafleting on HIV and hepatitis vaccination in the pharmacy. Comments included;

*'If they have obvious wounds on their hands we would assess them as they come in and say, oh look you need to go to see a doctor with that, that needs to be looked at, that's infected – things like that.'* Participant #2

*'I do try and get them to talk about their health or lack of, you know. Personal care also. Sometimes they'll tell me and sometimes they'll sit down and tell me their whole life story.'* Participant #27

The majority of pharmacies engaged with local community drug services and methadone clinics, but with all participants observing the need for greater visibility of drug and alcohol services and referral routes. Some were aware of local treatment and detoxification services and referred service users to these when requested. Waiting times at these services were viewed as detrimental to service user treatment decision-making. Comments included;

*'All we can do is recommend people to seek help and point them in directions. But we've no means of tracking whether they present or (not). We tend to see the same people the whole time, you know we might get a new person every so often and people disappear.'* Participant #20

### *Training Needs and Support*

The majority of participants were satisfied with the needle exchange training provided. For the most part, continued training is needed on specific health related questioning and on where to refer service users to in terms of health, medical and treatment services. One participant observed;

*'what I think I'd like is a bit more information about if they want to come off, the drug using and the needles and stuff like that. But I do think it's a really good service, but there is room to improve.'* Participant #22

Some participants described needing more information and specific training on the injecting needs for steroid and synthetic tanning (melanotan) injecting.

*'Some people are using them for tan or steroids or something like that. Now I wouldn't be familiar with anything like that so I wouldn't know what to advise or how to advise.'* Participant #2

## **Discussion**

We present here the qualitative findings gathered as part of the national evaluation of the PNEX pilot in Ireland. Limitations of the study centre on the convenience sample aspects of participant recruitment, self-reporting of views and experiences, and the potential for researcher biases and idiosyncracies. Validity of the study is however optimized by the

trustworthiness of the data in verification of extensive similarities across participant narratives, and horizontal consistency and vertical consistency in the interpretation of data.<sup>32</sup>

Pharmacist experiences illustrated the positive nature of providing the service, and were encouraged by rising rates of uptake over time. Data recorded in the preceding year, indicated that numbers of people attending the needle exchange services in Irish pharmacies increased throughout 2013, suggesting that the programme was successfully engaging with PWID and increasing access to clean injecting equipment and contact with health professionals. The provision of pharmacy based needle exchanges in a variety of rural and urban settings is likely to be a key step towards achieving broad coverage across Ireland and reducing the risk of BBV transmission in Ireland. Of note is that pharmacists in their capacity as health providers are more likely to provide harm reduction services if their communities demand them.<sup>1,16-19,33-34</sup>

Pharmacist experiences illustrated the positive nature of providing needle exchange services In contrast, findings elsewhere have illustrated more negative views, where some pharmacists have disclosed negative attitudes towards PWID and although attitudes towards the provision of services in pharmacies for PWID have generally improved in recent years they are still mixed.<sup>35-37</sup> Recent systematic reviews have underscored the general positive attitude to providing harm reduction advice in pharmacies, with common barriers centring on lack of time and specific training, fear of attracting difficult service users, insufficient remuneration, and difficulties in communicating with adjunct health providers.<sup>2</sup> Of note for this pilot programme going forward, and building on the goodwill and positive attitude toward providing NSP, is that service user perceptions of negative staff attitudes and experiences of discrimination have been associated with increased risk of needle sharing activities<sup>38</sup> and the impact of needle and syringe exchange services on BBV infection may be greater where clients engage in other health interventions in addition to needle exchange.<sup>39</sup> Equally, the attitudes of pharmacy staff towards service provision may improve with training<sup>11,16,35</sup> and with increased experience of providing services.<sup>14</sup> Where the needle exchange is a new service within the pharmacy, it might be expected that attitudes and relationships with clients improve with familiarity.<sup>14,26</sup> Tesoriero et al.<sup>15</sup> reported no increase in crime or staff/customer discomfort following implementation of needle and syringe exchange despite initial concerns. Many of the comments by participating pharmacists were positive with regard to the provision of sterile injecting equipment and were largely supportive of the actual client group. However, there was evidence of residual concerns and some continued mistrust of PWID.



Low return rates of used sharps were reported and requests for particular syringes are similar to studies conducted elsewhere.<sup>1,40-42</sup> The World Health Organisation<sup>43</sup> and National Institute for Health and Care Excellence (NICE)<sup>23</sup> emphasise that increasing the coverage of sterile injecting equipment to PWID, towards the goal of a sterile syringe and needle for every injection is of paramount importance, in the prevention of blood borne virus transmission. However, effective disposal systems for used equipment are vital for improving the safety of communities and tackling negative attitudes towards needle exchange programmes. The mixed **views** of pharmacy staff in this **qualitative** study on the best methods to encourage returns of used needles and equipment suggests that the provision of consistent information to pharmacy staff through training is required. Providing those using the needle exchange with advice and information on disposal and making it simple for them to make returns is likely to be beneficial. It is important to again consider the privacy of those clients who wish to safely dispose of their equipment in the pharmacy. With increased engagement between staff and clients in the pharmacy, it may be likely that rates of returns will improve.

Despite the speed of the needle exchange transaction itself and restriction to one service user at a time, pharmacists in **this Irish** study voiced intentions to develop trusting relationships and opportunities to engage with service users within a confidential service. Relationships with needle exchange service users are paramount to continued uptake, increased reach to other PWID or those users at risk of injecting, and the referrals toward ancillary social, medical and treatment services.<sup>40,44,46</sup> It is regrettable that pharmacy models in busy retail environments to a certain extent are restricted by time pressures and staff availability. Increased contact and engagement between staff and clients is likely to increase trust and improve relationships. It was reported that transactions were typically quick and, particularly with new clients, there was a reluctance to engage fully. Creating an environment where clients feel comfortable is therefore important to maximise the benefits of the service. Concerns about privacy and confidentiality have been identified as a barrier to the delivery of public health services in pharmacies<sup>37,47</sup> including to PWID.<sup>48</sup> Guidance for pharmacies in the United Kingdom states that service users and pharmacists should be able to sit down together and speak to each other without being overheard by other customers or staff. The provision of consultation rooms where clients can discuss their drug use and related health concerns with pharmacy staff may lead to increased uptake of services and improved relationships between staff and clients.

**Pharmacists in this Irish evaluation expressed needs in relation to specific harm reduction training, specific promotional leaflets to raise awareness in their communities, and the provision of 'fit for purpose' exchange packs particular to the needs of their service users. For**



example, in some areas, emergent trends included the injecting use of performance and image enhancement drugs, as distinct from the traditional PWID. Specific service user and staff training needs therefore appeared to centre on injecting use of steroids and tanning injections. This client group are of particular significance to needle and syringe programmes as they now account for over half of all clients the United Kingdom,<sup>49</sup> with increasing numbers also being reported in Australia<sup>50</sup> while a recent meta-analysis indicated a global lifetime prevalence of 3.3%. Perhaps of even greater concern, is the evidence from the United Kingdom relating to HIV. HIV prevalence levels of between 1.5% and 2% amongst those who inject anabolic steroids and associated drugs, the same level as people who inject heroin or crack cocaine.<sup>51-52</sup> Hepatitis B and C were also identified in this population, together with concerning levels of localized infection and injury.<sup>53</sup> Pharmacists required some training on where to refer to, and should over time nestle within an interagency approach to dealing with addiction in the community.

The epidemiology, behavior and associated risks amongst PWID is dynamic in nature. There are indications that Ireland, like the United Kingdom, will experience increases in those injecting PWIDs, a widening pharmacopeia<sup>54</sup> including anabolic steroids, growth hormones and tanning agents, together with an ever changing array of novel psychoactive substances.<sup>55</sup> It is essential that the changing profile of injectors is acknowledged and appropriate training developed and delivered

## Conclusion

Pharmacist experiences illustrated the positive nature of providing the needle exchange service, and highlighted needs to develop specific harm reduction training for pharmacists, implement appropriate strategies to raise awareness of the services with PWID provide injecting equipment to meet the specific needs of their diverse service users and ensure the development of trusting relationships and opportunities to engage within a confidential service.

## Acknowledgement

The evaluation was funded by the Elton John AIDS Foundation and Health Service Executive Social Exclusion Services. We thank the pharmacies who partook. With exception of assistance in recruitment strategy, the funders had no role in the design, collection, analysis and interpretation of the data gathered in this article, or the decision to submit for publication.

## References

1. Zaller N, Jeronimo A, Bratberg J, Case P, Rich JD. Pharmacist and pharmacy staff experiences with non-prescription (NP) sale of syringes and attitudes toward providing

- HIV prevention services for injection drug users (IDUs) in Providence, RI. *J Urban Health*. 2010;87:942-953.
2. Watson T, Hughes C. Pharmacists and harm reduction: A review of current practices and attitudes. *Can Pharm J (Ott)*. 2012;145:124-127. doi: 10.3821/145.3.cpj124.
  3. Cox G, Robinson J. *Needle Exchange Provision in Ireland: The Context, Current Levels of Service Provision and Recommendations. A Joint Report by the National Drugs Strategy Team and the National Advisory Committee on Drugs*. Dublin: NACD; 2008.
  4. Jones L, Pickering L, Sumnall H, McVeigh J, Bellis M.A. Optimal provision of needle and syringe programmes for injecting drug users: A systematic review. *Int J Drug Policy*. 2010;21:335-342.
  5. Jones L, Bates G, McVeigh J. *Update of NICE guidance PH18 on needle and syringe programmes: qualitative and quantitative review updates*. Liverpool John Moores University; 2014.
  6. Watters JK, Bieracki P. Targeted sampling: options for the study of hidden populations. *Soc Probl*. 1989;36:416-430.
  7. Bingham T, Harnedy N, O'Driscoll D, Keane R, Doyle J. *Review of Needle Exchange Provision in Ireland*. Dublin: Health Service Executive Ireland; 2015.
  8. Nacopoulos AG, Lewtas AJ, Ousterhout MM. Syringe exchange programs: impact on injection drug users and the role of the pharmacist from a U.S. perspective. *J Am Pharm Assoc*. 2010;50:148-57.
  9. Rudolph AE, Crawford ND, Ompad DC, et al. Comparison of injection drug users accessing syringes from pharmacies, syringe exchange programs and other syringe sources to inform targeted HIV prevention and intervention strategies. *J Am Pharm Assoc*. 2010;50:140-147.
  10. Smith DM, Werb D, Abramovitz D, Magis-Rodriguez C, Vera A, Patterson TL, Strathdee SA. Predictors of needle exchange program utilization during its implementation and expansion in Tijuana, Mexico. *Am J Addict*. 2016;25:118-24.

11. Vasudev N. Perception on sale of needles and syringes by pharmacies in Kelowna. 2002.  
Available:  
[http://archive.cbrc.net/attachments/161\\_KelownaSyringesSalesPerceptions.pdf](http://archive.cbrc.net/attachments/161_KelownaSyringesSalesPerceptions.pdf)  
Accessed June 27, 2011.
12. Stancliff S, Agins B, Rich JD, Burris S. Syringe access for the prevention of blood borne infections among injection drug users. *BMC Public Health*. 2003;3:1-6.
13. Sheridan J, Henderson C, Greenhill N, Smith A. Pharmacy-based needle exchange in New Zealand: a review of services. *Harm Reduct J*. 2005;2:10.
14. Matheson C, Bond CM, Tinelli M. Community pharmacy harm reduction services for drug misusers: national service delivery and professional attitude development over a decade in Scotland. *J Public Health*. 2007;29:350-357.
15. Tesoriero JM, Battles HB, Klein SJ, et al. Expanding access to sterile syringes through pharmacies: assessment of New York's expanded syringe access program. *J Am Pharm Assoc*. 2009;49:407-416.
16. Vorobjov S, Uuskula A, Abel-Ollo K, et al. Should pharmacists have a role in harm reduction services for IDUs? A qualitative study in Tallinn, Estonia. *J Urban Health*. 2009;86:918-928.
17. Cooper EN, Dodson C, Stopka TJ, et al. Pharmacy participation in non-prescription syringe sales in Los Angeles and San Francisco counties, 2007. *J Urban Health*. 2010;87:543-552.
18. Watson L, Bond C, Gault C. A survey of community pharmacists on prevention of HIV and hepatitis B and C: current practice and attitudes in Grampian. *J Public Health Med*. 2003;25:13-18.
19. Le P, Hotham ED. South Australian rural community pharmacists and the provision of methadone, buprenorphine and injecting equipment. *Int J Pharm Pract*. 2008;16:149-154.

20. Tsai TI, Morisky DE, Chen YM. Role of service providers of needle syringe program in preventing HIV/AIDS. *AIDS Educ Prev*. 2010;22:546-557.
21. Des Jarlais DC, Nugent A, Solberg A, Feelemyer J, Mermin J, Holtzman D. Syringe Service Programs for Persons Who Inject Drugs in Urban, Suburban, and Rural Areas - United States, 2013. *MMWR Morb Mortal Wkly Rep*. 2015;64:1337-1341.
22. Noble K, Holden M and Warner G. A solution to improving uptake of hepatitis B immunisation in at risk groups, through collaboration and adopting an integrated approach with pharmacists as service providers. *Int J Pharm Practice*. 2010;18:43.
23. National Institute of Health and Care Excellence (NICE). *Needle and syringe programmes. NICE public health guidance 52*. National Institute for Health and Care Excellence; 2014.
24. Gyarmathy VA, Csák R, Bálint K, Bene E, Varga AE, Varga M, Csiszér N, Vingender I, Rácz J. A needle in the haystack - the dire straits of needle exchange in Hungary. *BMC Public Health*. 2016;16:157.
25. Matheson C, Bond CM, Mollison J. Attitudinal factors associated with community pharmacists' involvement in services for drug misusers. *Addiction*. 1999;94:1349-1359.
26. Matheson C, Bond CM, Pitcairn J. Community pharmacy services for drug misusers in Scotland: what difference does 5 years make? *Addiction*. 2002;97:1405-1411.
27. Matheson C, Thiruvethiyur M, Robertson H, Bond C. Community pharmacy services for people with drug problems over two decades in Scotland: Implications for future development. *Int J Drug Policy*. 2016;27:105-112. doi: 10.1016/j.drugpo.2015.11.006.
28. Kelly A, Carvalho M, Teljeur C. Prevalence of opioid use in Ireland 2006: a 3-source capture recapture study. 2009: Dublin, National Advisory Committee on Drugs.
29. Carew AM, Bellerose D, Lyons S, Long J. Trends in treated problem opioid use in Ireland, 2002 to 2007. HRB Trends Series 7. Dublin: Health Research Board; 2009.
30. Department of Community, Rural and Gaeltacht Affairs. *National Drugs Strategy (interim) 2009-2016*. Dublin: Department of Community, Rural and Gaeltacht Affairs; 2009.

31. Karlsson, G. Psychological qualitative research from a phenomenological perspective. Stockholm, Sweden: Almqvist & Wiksell International; 1995.
32. Maxwell, J. A. Understanding and validity in qualitative research. *Harvard Educ. Rev.* 1992;62:279-301.
33. Rees L, Harding G, Taylor K. Supplying injecting equipment to drug misusers: a survey of community pharmacists' attitudes, beliefs and practices. *Int J Pharm Pract.* 1997;5:167-175.
34. Hall S, Matheson C. Barriers to the provision of needle-exchange services: a qualitative study in community pharmacies. *Int J Pharm Pract.* 2007;16:11-16.
35. Scott J, Mackridge AJ. Pharmacy support staff involvement in, and attitudes towards, pharmacy-based services for drug misusers. *Int J Pharm Practice.* 2009;17:325-332.
36. Mackridge AJ, Scott J. Experiences, attitudes and training needs of pharmacy support staff providing services to drug users in Great Britain: A qualitative study. *J Subst Use.* 2009;14:375-384.
37. Eades CE, Ferguson JS, O'Carroll RE. Public health in community pharmacy: A systematic review of pharmacist and consumer views. *BMC Public Health.* 2011;11:582.
38. Wilson H, Brener L, Mao L, Treloar C. Perceived discrimination and injecting risk among people who inject drugs attending Needle and Syringe Programmes in Sydney, Australia. *Drug Alcohol Depend.* 2014;144:274-278.
39. Van Den Berg C, Smit C, Van Brussel G, Coutinho R, Prins M. Full participation in harm reduction programmes is associated with decreased risk for human immunodeficiency virus and hepatitis C virus:evidence from the Amsterdam Cohort Studies among drug users. *Addiction.* 2007;102:1454-1462.
40. Lewis BA, Koester SK, Bush TW. Pharmacists' attitudes and concerns regarding syringe sales to injection drug users in Denver, Colorado. *J Am Pharm Assoc Wash.* 2002;42:S46-S51

41. Coffin PO, Ahern J, Dorris S, Stevenson L, Fuller C, Vlahov D. More pharmacists in high-risk neighborhoods of New York City support selling syringes to injection drug users. *J Am Pharm Assoc Wash.* 2002;42:S62-S67.
42. Taussig J, Junge B, Burris S, Jones TS, Sterk CE. Individual and structural influences shaping pharmacists' decisions to sell syringes to injection drug users in Atlanta, Georgia. *J Am Pharm Assoc Wash.* 2002;42:S40-S45.
43. World Health Organization (WHO). Policy brief: Provision of sterile injecting equipment to reduce HIV transmission. Geneva: World Health Organization; 2004.
44. Coffin PO, Linas BP, Factor SH, Vlahov D. New York City pharmacists' attitudes toward sale of needles/syringes to injection drug users before implementation of law expanding syringe access. *J Urban Health.* 2000;77:781-793.
45. Coffin PO, Linas BP, Factor SH, Vlahov D. New York City pharmacists' attitudes toward sale of needles/syringes to injection drug users before implementation of law expanding syringe access. *J Urban Health.* 2000;77:781-793.
46. Harbke CR, Fisher DG, Cagle HH, Trubatch BN, Fenaughty AM, Johnson ME. Telephone surveys of Alaskan pharmacists' nonprescription needle-selling practices. *J Urban Health.* 2000;77:113-120. doi: 10.1007/BF02350967.
47. Saramunee K, Krska J, Mackridge A, Richards J, Suttajit S, Phillips-Howard P. How to enhance public health service utilization in community pharmacy?: General public and health providers' perspectives. *Res Social Adm Pharm.* 2014;10:272-284.
48. Mackridge AJ, Beynon CM, McVeigh J, Whitfield M, Chandler M. Meeting the health needs of problematic drug users through community pharmacy: A qualitative study. *J Subst Use.* 2010;15:367-376.
49. Kimergard A, McVeigh J. Variability and dilemmas in harm reduction for anabolic steroid users in the UK: a multi-area interview study. *HRJ.* 2014;11:19.

50. Iversen J, Topp L, Wand H, Maher L. (). Are people who inject performance and image-enhancing drugs an increasing population of Needle and Syringe Program attendees? *Drug Alcohol Rev.* 2013;32;205-207.
51. Hope VD, Harris R, McVeigh J, Cullen KJ, Smith J, Parry JV, et al. Risk of HIV and Hepatitis B and C Over Time Among Men Who Inject Image and Performance Enhancing Drugs in England and Wales: Results From Cross-Sectional Prevalence Surveys, 1992-2013. *J Acquir Immune Defic Syndr.* 2016;71;331-337.
52. Hope VD, McVeigh J, Marongiu A, Evans-Brown M, Smith J, Kimergard A, et al. Prevalence of, and risk factors for, HIV, hepatitis B and C infections among men who inject image and performance enhancing drugs: a cross-sectional study. *BMJ Open.* 2013;3;e003207-e003207.
53. Hope VD, McVeigh J, Marongiu A, Evans-Brown M, Smith J, Kimergard A, et al. Injection site infections and injuries in men who inject image- and performance-enhancing drugs: prevalence, risks factors, and healthcare seeking. *Epidemiol Infect.* 2015;143;132-140.
54. Sagoe D, McVeigh J, Bjornebekk A, Essilfie MS, Andreassen CS, Pallesen S. Polypharmacy among anabolic-androgenic steroid users: a descriptive metasynthesis. *Subst Abuse Treat Prev Policy.* 2015;10;12.
55. Dargan P, Wood DM. *Novel Psychoactive Substances.* San Diego: Academic Press; 2013.