



# Understanding and responding to the rise of steroid injecting in Australia: RECOMMENDATIONS FROM A NATIONAL CONSULTATION

*Authors: Seear, K., Murphy, D., Fraser, S. and Moore, D.*

# Table of Contents

---

<b>1 Background and Aims -----</b>	<b>5</b>
<b>1.1 Background -----</b>	<b>5</b>
<b>1.2 Overview of this consultation -----</b>	<b>5</b>
<b>1.3 Consultation aims -----</b>	<b>6</b>
<b>1.4 Methods -----</b>	<b>6</b>
<b>2 Findings -----</b>	<b>7</b>
<b>2.1 Trends in steroid use in Australia -----</b>	<b>7</b>
<b>2.1.1 Prevalence of use-----</b>	<b>7</b>
<b>2.1.2 Who uses steroids in Australia?-----</b>	<b>7</b>
<b>2.2 Lack of fit between research, policy and practice -----</b>	<b>9</b>
<b>2.2.2 Harm reduction measures poorly integrated -----</b>	<b>9</b>
<b>2.2.1 Policy, legal and regulatory responses may generate or increase harms --</b>	<b>10</b>
<b>2.3 Gaps in knowledge about illicit steroid use-----</b>	<b>12</b>
<b>2.3.1 Sourcing steroids and injecting equipment -----</b>	<b>12</b>
<b>2.3.2 Motivations for using steroids-----</b>	<b>12</b>
<b>2.3.3 Relationship between illicit steroids and other drugs-----</b>	<b>12</b>
<b>2.4 Gaps in understanding of the harms associated with steroid use-----</b>	<b>13</b>
<b>2.4.2 Blood-borne viruses-----</b>	<b>13</b>
<b>2.4.3 Knowledge of injecting-related harms-----</b>	<b>14</b>
<b>2.5 Enhancing Australia's capacity to understand and respond to steroid use -----</b>	<b>15</b>
<b>2.5.1 Barriers to understanding and responding to steroid use -----</b>	<b>15</b>
<b>2.5.2 Strategies for researching and responding to steroid use-----</b>	<b>16</b>
<b>2.6 Working towards more effective harm reduction strategies -----</b>	<b>17</b>
<b>Conclusion -----</b>	<b>18</b>
<b>Appendices</b>	
<b>A Table of participants -----</b>	<b>19</b>
<b>B Letter of invitation-----</b>	<b>20</b>
<b>C Questions for participants -----</b>	<b>21</b>
<b>References -----</b>	<b>22</b>
<b>List of Tables</b>	
<b>Table 1: Groups cited as using steroids in increasing numbers in Australia -----</b>	<b>8</b>
<b>Table 2: Strategies for researching and responding to steroid use -----</b>	<b>16</b>
<b>Table 3: Suggestions for developing more targeted         and effective harm reduction strategies -----</b>	<b>17</b>

# Acknowledgements

The authors wish to gratefully acknowledge the contributions of all participants in this consultation. This report has been made possible by funding provided by the National Drug Research Institute, Faculty of Health Sciences, Curtin University, which is core funded by the Australian Government's Substance Misuse Prevention and Service Improvement Grants Fund; and the Faculty of Law at Monash University.

Authors: Seear, K., Murphy, D., Fraser, S. and Moore, D.

© Copyright 2015

ISBN: 978-0-9873641-7-3

Graphic design and cover image: Elinor McDonald

# Executive Summary

This report details findings from a national consultation on illicit steroid use in Australia undertaken between late 2014 and early 2015. The report presents findings from interviews conducted with a range of stakeholders, including academics, policymakers, service providers, user group representatives and other advocates. These interviews explored the phenomenon of steroid injecting along with the contemporary landscape of research, policy and practice in the Australian context. Interview questions were concerned with future directions for research on illicit steroid use, the relationship between research and policy, the relationship between drug services and policy implementation, and the most appropriate public health responses. This report presents participants' perceptions of steroid injecting, key risks and responses, and needs for future research. The report also details participants' perceptions of the landscape of steroids-related research, policy and practice in Australia, including the extent to which these three fields are sufficiently integrated, and where appropriate, strategies for improving the interface between these spheres of practice.

The main findings of this report are that:

- There is presently a **lack of fit between research, policymaking and service provision** in relation to steroid use in Australia;
- The current prevalence of steroid use in Australia is **unclear but appears to be increasing**;
- There is an appreciable **risk of blood-borne virus (BBV) transmission** among people who inject steroids;
- **More research is required** in relation to:
  - > **Prevalence** of use;
  - > **Motivations** for use;
  - > **Issues around sourcing and supply**;
  - > **The relationship (if any) between steroid use and other forms of illicit and injecting drug use**;
  - > **The harms associated** with steroid use, including but not limited to the risk of BBV transmission;
  - > **The minutiae of injecting practices** among people who inject steroids; and
  - > **Knowledge of harms**, including risks associated with particular injecting practices;
- **A more targeted harm reduction strategy is needed** for people who use steroids, including those who inject them;
- Targeted harm reduction strategies must **take into account the changing demographics of use**, with younger men and culturally and linguistically diverse

groups, among others, using illicit steroids;

- Some recent **policy, legal and regulatory responses** to steroid use in Australia have **been implemented too hastily**, without a sufficient evidence base and in ways that may be counter-productive to harm reduction; and
- There are **barriers and enablers** to **engaging with people who use illicit steroids**, both for the purposes of improving our knowledge base and for harm reduction and safer injecting strategies.

This report is intended to inform researchers in the field of alcohol and other drugs, policymakers and service providers, advocates and user groups and relevant industries (such as the gym/fitness industry).

The report documents areas of agreement and disagreement between stakeholders on the nature, and extent of steroid use in Australia; areas requiring further investigation; and perceptions about the barriers and enablers to integration between research, policy and practice and translation of research findings. As such the report aims to act as a guiding resource for future work in this area.

# **1 Background and Aims**

## **1.1 Background**

A range of evidence suggests that illicit steroid injecting in Australia is increasing. These include:

- ▶ A 2014 major investigative report by the Australian Crime Commission into drug use in Australian sport (Australian Crime Commission 2013a);
- ▶ Data suggesting that customs interceptions of performance and image enhancing drugs (PIEDs) doubled between 2010 and 2011, increasing again in 2011-2012 (Australian Crime Commission 2013b), with more than 70% of detected PIEDs being steroids (Australian Crime Commission 2013b);
- ▶ Steroid seizure and arrest data. These show substantial increases in the number and size of steroid seizures, alongside an increase in steroid-related arrests, with record numbers of seizures and arrests in 2011-12 (Australian Crime Commission 2013b);
- ▶ Within the same timeframe, a doubling in the number of PIED injectors presenting at needle and syringe programs (NSPs) (Iversen et al. 2013);
- ▶ Reports that in some areas, PIED users now comprise the largest cohort of NSP service users (Iversen et al. 2013); and
- ▶ Data suggesting that among new initiates to injecting drug use (IDU), more than half (55%) reported last injecting PIEDs (Iversen et al. 2013).

Similar trends have been reported in the United States and the United Kingdom, (Advisory Council on the Misuse of Drugs 2010a; Castillo & Comstock 2007; McVeigh, Beynon & Bellis 2003; Rich et al. 1998), and concern is increasing about how best to respond to them. Steroid use has become a particular concern for many reasons. In Australia, a key reason for this is the aforementioned ‘spike’ in steroid seizures and arrests by customs. Australia’s National Drug Strategy Household Survey (Australian Institute of Health and Welfare 2014) suggests that overall prevalence of steroid use remains low, with just 0.1% of those surveyed having used steroids for non-medical purposes in the previous 12 months. This figure is unreliable, however, given the high ‘relative standard error’ (Australian Institute of Health and Welfare 2014), so that prevalence might be either lower or higher than 0.1%. Emerging alongside concerns that steroid use is on the rise in Australia are observations that the range of people using steroids is becoming more diverse (Evans-Brown & McVeigh 2009). In other words, despite extensive media and public interest in PIED

use amongst professional sportspeople, data suggest that the majority of use occurs among other groups (e.g. Bahrke & Yesalis 2004).

Although there is a body of literature on steroid use in Australia, there has been less research in recent years that examines these apparent trends. The research team sought to explore some of the issues surrounding the apparent rise and diversification of steroid use in Australia with key stakeholders and analysts, with a view to guiding research in this nascent field. For this purpose, a national consultation was held between late 2014 and early 2015.

## **1.2 Overview of this consultation**

The principal aim of the consultation was to document stakeholder perspectives on the current landscape of research, policy and practice in Australia in relation to steroid use, with a view to informing future research strategies in the field. The consultation’s aims and specific fields of inquiry are listed in Section 1.3 of this report. In particular, the report identifies several areas that warrant further research. These relate to gaps in research and/or translation of findings into policy and practice, and barriers and enablers to the development of research as well as to the identification and rollout of effective harm reduction strategies.

In all, fifteen professionals based in a range of organisations participated in the research. The participants included researchers and academics, policymakers, advocates and service providers. An anonymised list of participants and the professional categories each represents appears in Appendix A. Some participants work across more than one category (e.g. service provision and policy). Where participants nominated more than one role, they were allocated to the category that most closely related to their work.

Candidates for inclusion in the consultation were identified through criteria and methods including the authors’ combined knowledge of the field, a media analysis identifying active spokespersons on issues of steroid use, and invitations issued to major relevant

# **1 Background and Aims**

---

government departments in states and territories and at the Commonwealth level. Potential participants were sent written invitations (email or post) to join the study (Appendix B). More detail on the methods for the study can be found in section 1.4 below.

## **1.3 Consultation aims**

The aims of the consultation were to explore:

- ▶ Key issues for research into steroid use in Australia and for appropriate and effective social and public health responses;
- ▶ Gaps in Australia's knowledge about steroid use;
- ▶ Views on the degree of fit between research on steroid use and policy and practice in Australia;
- ▶ Views on the scale of steroid use in Australia; and
- ▶ Strategies for feeding back research to policy and service delivery in this area.

## **1.4 Methods**

The interviews were conducted face-to-face or over the phone, digitally recorded and transcribed verbatim. All interviews were conducted by one member of the research team (Dean Murphy). Participants were asked a series of set questions (Appendix C) exploring perceptions of the scale of steroid use in Australia, appropriate measures and responses and needs for future research. At the conclusion of the interview, participants were invited to make additional comments or speak to topics that had not been covered. All interview transcripts were closely read by two of the authors and a series of preliminary themes were identified. In order to elucidate some aspects of the findings, quotations from participants are included in the sections that follow. In order to ensure the anonymity of participants, no participants are named in Appendix A of this report. Where quotations are included, they are attributed using only a category designation, being 'SP' for service provider, 'PO' for policy, 'AD' for advocacy and 'RE' for research.

This project was approved by Curtin University's Human Research Ethics Committee (Approval number: RDHS-09-14).

# 2 Findings

## 2.1 Trends in steroid use in Australia

Most participants in this consultation observed that the nature and scale of steroid use in Australia has not yet received sufficient attention from researchers, policymakers and service providers, and that considerable scope exists for more work — including more policy and practice relevant research — to be done in this area. The prevalence of illicit steroid use and the composition of the population that uses them were identified as two of the most crucial pieces of missing information.

### 2.1.1 Prevalence of use

Participants were asked to comment about the scale of steroid use. Most expressed the view that it has increased over time: use is ‘increasing for sure’ (AD3), it has ‘increased quite a lot’ (SP1) and — in terms of NSP attendance — is ‘rising, definitely rising — and fast’ (SP6). In contrast, some were more sceptical about the data, offering alternative explanations for the apparent increase in use, while cautioning against drawing any firm conclusions about prevalence. As one participant explained:

*Look [...] I don't buy into [the claim] that every other second man is using steroids and I think we need to be very careful even using the NSP attendance data to say that, because I know for a fact that a decade ago, people wouldn't have known [to go to] needle syringe programs. They would've much rather buy online or through a pharmacy [...] (AD1)*

In relation to increases in customs seizure figures, the same participant noted:

*[we] don't always know that that's a true indicator because what about what we're not getting? Same with other substances, isn't it? We don't know what we're not seeing, so it's hard to use that as an indicator in and of itself around prevalence of use. (AD1)*

While opinions on growing steroid usage differed, participants were nevertheless in agreement about one key point: that current knowledge about prevalence was hampered by a lack of reliable, up-to-date data.

In some cases speculating that use was perhaps ‘very underrated’ (SP1), ‘a lot larger than people realise’ (SP1) and ‘bigger than what we think it is’ (SP2), participants called for more data to settle these questions.

Concerned that ‘a lot of [the information] is wrong’ (SP1), participants suggested that Australia’s capacity to respond to steroid use is presently weak:

*We don't have a lot of visibility over what the extent of the problem is. (PO3)*

*We just don't really know — do we — what the prevalence is. (SP7)*

The need many felt for more data is summed up in this observation:

*Certainly anecdotally and you look at the media you can see some stories suggesting that use is growing [...] We are very reluctant to say that it has increased or that it is increasing, or it is in particular populations, because it always seems to be anecdotal. So we'd certainly support any study that could give better information about prevalence [...] Certainly if we had better information on prevalence [...] that would help us all as a sector to find effective responses. (PO2)*

### 2.1.2 Who uses steroids in Australia?

As noted earlier, concerns have been raised both in Australia and internationally that the population using steroids is diversifying (e.g. Evans-Brown & McVeigh 2009). Participants in this consultation agreed that this diversification is underway, with one noting that ‘there was definitely a leap where suddenly, yeah, it got into the more general population’ (SP3). This has led, in another participant’s view, to ‘a change in drug tone’ (SP7). Some of the main groups thought to be using steroids in increasing numbers in Australia are detailed in Table 1, below.

## 2 Findings

***"We don't have a lot of visibility over what the extent of the problem is."***

(P03)

Who uses steroids in Australia?	Indicative quotations
Younger people	<p><i>We have cases of people who in their early 20s or even in their teens are already starting to use steroids, especially young men who are already bursting with testosterone anyway. (AD2)</i></p> <p><i>We are seeing a lot more young people who are willing to give it a crack. (P03)</i></p>
Culturally and linguistically diverse groups	<p><i>They're not all Anglo-Australians. (SP3)</i></p>
Occupational groups	<p><i>There's quite a huge construction industry happening in Gladstone at the moment with Port Curtis going ahead and lots of mining around as well, so there's quite a large disposable income that we see in the mining, construction populations, so some of the steroid guys are coming from there. (SP5)</i></p> <p><i>People who work in [...] distribution and what not, people who are having to carry heavy loads of things, people operating heavy machinery. (AD2)</i></p>
Aspiring athletes	<p><i>I still see a lot of people that are playing amateur sport, but with a view to be professional. They might be late teens, early 20s and still think that one day they could be professional sports people. (AD1)</i></p>

Table 1: Groups cited as using steroids in increasing numbers in Australia

Participants also noted a tendency among AOD sector workers to make inaccurate assumptions about who uses steroids, especially as a result of this diversification. This diversification has implications for research as well as for other areas. As one participant explained:

*Well, I think that we previously conducted work in this area and the thing that really stood out for me was that there were different typologies of steroid users that meant you need to think about your sampling frame, about which of those groups you are going to sample from and structuring your questionnaire around that framework. When we first started, we thought they were all going to be people who are in the gyms and that they were connected to that and we discovered that that wasn't the case at all. (P01)*

As another participant explained:

*the market for steroid use is a lot broader than just gym junkies and body beautiful people and [...] more research on] stuff around models and the occupational thing as well [...] would be great because I think the, what we know, what we've seen in terms of people's application and use is a lot broader than what is, well, what's stereotyped as steroid users. (AD2)*

As with the question of prevalence, there was a call for more reliable, up-to-date data on who uses steroids in Australia.

## 2 Findings

### 2.2 Lack of fit between research, policy and practice

The issue that generated the most widespread agreement among participants in the consultation involved the relationship between research, policy and practice in this area and — in particular — the extent to which these three fields were integrated. Most participants were of the view that the level of integration between research, policy and practice in Australia is extremely low and that much more could and should be done to encourage dialogue between researchers, practitioners and policymakers, for more effective social and public health policy responses to steroid use.

Some participants argued that there was a significant gulf between knowledge and practice, with research being ‘very underdone’ (AD1) and policy, practice and research described as being ‘very far apart’ (SP4). One senior policy official declared that ‘Australia hasn’t done anywhere near enough [work] in this space’ (PO1). Several participants expressed a sense of urgency to improve integration, a view perhaps best articulated by one participant who suggested that:

*I can definitely say from my experience in here, that it has sort of, you know the horse has bolted from the stable about 10 years ago, where it just really took off. (SP3)*

Participants identified gaps in research, policy and practice as well as levels of integration between all three:

*Policy and practice is lacking. Lacking for a whole bunch of reasons. I think that there are a lot of assumptions made about steroid use and performance-enhancing drugs. (SP2)*

*To my knowledge, there would be nothing departmentally that would be you know, MSM or gay specific [...] I don’t think there’s any kind of policy or anything like that to guide those of us that are working on the ground. (SP4)*

*...the gap in steroids is there’s just not the resources around as far as any TV awareness, no TV campaigns. There is the odd brochure here and there. (SP6)*

Participants gave several examples of the lack of fit between research, policy and practice, along with areas where more research was needed. Several participants emphasized the importance of responding quickly, as ‘there’s a lot of catching up to do, because it’s all happening now and grows and changes very quickly’ (SP5). In the next sections, we examine two of these examples as a way of illuminating some of the core concerns of consultation participants.

#### 2.2.2 Harm reduction measures poorly integrated

Participants in service provision and advocacy expressed particular concern about the lack of evidence to guide the work they do, with one participant explaining that ‘we feel really out of our depth’ (AD1). In other words: ‘How would we respond as a service, how do we respond to the 5% of our clients who are injecting steroids? 5% is a significant number’ (SP2). The need to provide more information and support to the AOD workforce was a strong theme across the consultation, as these comments indicate:

*The educators and the needle exchanges know the education on drug and alcohol, but [are] very limited when it comes to steroids. (SP6)*

*There are some barriers that the client groups have because our services were not set up to support their drug of choice. Most of our services were set up in the 1980s when heroin was the predominant drug that was being injected and therefore, we have services that are very much focused on that client group. (SP2)*

*We are getting information from our NSPs now that there’s increase in steroid users attending NSPs to get their syringes, but the whole issue for them around, it’s not their normal customer base and information you know, is not geared to that customer base. (PO3)*

*I think at the coalface you know with other workers or health workers that might be dealing with guys that have used steroids, their knowledge is quite low. (SP5)*

## 2 Findings

***"We are catching up, there's a lot of catching up to do, because it's all very happening now and grows and changes very quickly."***

(SP5)

*I really do think NSPs are geared towards other types of injecting, so there's a lot of workers out there that don't feel confident even having the discussion, because they you know, they might not have correct information to have a share, but actually gaps about knowledge of the use. (AD3)*

As one participant explained, service providers could work more effectively if more research was available to guide them:

*research can step in and ask those questions, provide those recommendations on how a service should respond, whether that's as an outreach model, whether it's an in-reach modelled into broader community services, whether it's a specialised program, sort of a bit like this one, but with them as a particular focus. Whether it's working within gyms and other established services, whether it's working within nightclubs and coming into people in the entertainment industry and those sorts of contacts. Whether it's going out to building sites and working with people who are occupational users of steroids, because they're another big group of steroids users. (SP2)*

Participants suggested 'a variety of things' (PO1) researchers could examine that 'nobody has looked at all' (PO1), noting that a key priority was to support harm reduction strategies. As one participant noted, 'most of the people we had contact with wanted to have a safer steroid use' (PO1), but asked, 'how could research support that?' (SP2). As these participants explained, service providers need much more support and training on steroid injecting practices and safety:

*Things around you know, how to inject, where to inject and how to inject. Stuff around the differences in equipment between intravenous injection and intramuscular injection. Equipment you'll use for different muscles, so you know, looking at different injection sites, the three main ones, being quads and [...] glutes and thighs.*

*And stuff around needle length, stuff around you know, how much you know, leaving some of the tip outside of the body, so if it's a contracture muscle and the needle snaps you've got some metal to pull back on, just little things like that, and stuff around injection site care, stuff around what we know in terms of you know, steroids that might appear to have been produced in a sterile environment but actually haven't been. (AD2)*

### 2.2.1 Policy, legal and regulatory responses may generate or increase harms

Some participants compared the apparent lack of action in relation to harm reduction strategies and supports for service providers to the wave of action underway in law enforcement. Some Australian states have recently introduced legislative changes that carry more severe penalties for people who use or possess steroids. One participant argued that recent changes to the law in Queensland had been developed as a result of poorly evidenced perceptions about links between steroid use and aggression and violence:

*While there's been some research in relation to increased aggression for people who use steroids, there's not a lot of firm research that states 'yes, it is a contributor' or 'no it's not', because that was one of the triggers for the Queensland Government increasing penalties associated with steroid possession and supply. It was the perception of its linkages to increased aggression and violence. (PO3)*

Another participant observed that:

*There's a number of people who do go out on the weekend who are pumped full of this sort of stuff and actually do these [violent] crimes, but it's an extremely small proportion, but you know it's blown all out of proportion and knee jerk reaction informs policy and it's a complete mess [...] I*

## 2 Findings

---

*mean my issue with that is that this policy was informed by a bunch of assumptions, which I don't think was based on true fact. (AD2)*

The same participant took the view that policy responses based on unsustainable assumptions or misconceptions had the potential to generate harms.

*Stuff around you know misconceptions or misunderstandings around 'roid rage' and [...] I know we are talking about Australia and that, but looking at it from a NSW perspective, stuff around the current laws recently — the increase in severity around you know possession and sale of steroids and what not [...] I'm thinking we are only going to effectively drive it further underground and make it harder for people like me to do my job and preach around harm [...] so these kind of misconceptions then informing policy and it being disproportionate and unfair. You know, the concern for me is it driving people further underground and away from services that might otherwise be more able to assist. (AD2)*

Overall a strong sense emerged in the data that Australia urgently needs a broader and richer evidence base on steroid use to properly inform policy and practice:

*we need some more clearer evidence-based research, or research that can inform evidence-based decisions. (PO3)*

## 2 Findings

### 2.3 Gaps in knowledge about illicit steroid use

The consultation identified several gaps in existing knowledge about steroid use in Australia. These include those already mentioned pertaining to trends/patterns in use, but participants also highlighted other gaps in knowledge, many of which relate to the practices and motivations of people who use steroids in Australia. These are detailed below.

#### 2.3.1 Sourcing steroids and injecting equipment

Many participants suggested that there was a need to know more about accessing steroids and steroid injecting equipment, including 'where [steroids] are being sourced' (AD2) and 'where they pick up [steroids] from, where they pick their needles up from' (SP5). There was a perception that steroid use was becoming 'very accessible' (SP4), particularly via the Internet, supplement stores and through overseas 'steroid holidays':

*And now people are able to quite easily it seems, you know access them online and from overseas, from their own initiative rather than them having to go through someone. (PO2)*

*The other one I guess is on-shore versus off-shore use, so the steroid holidays where people will go and do a cycle in South-East Asia, so that if they are competing in a sporting context or body building context, they will do their cycle overseas in time for it to sort of pass through the system so it won't be detectable when they are actually competing. (PO2)*

*A lot of the supplement stores that have popped up, a lot of reports from some of the guys, some of the stores are actually selling like the peptides when they are around a bit, so [there's] a lot of use out there in the industry I guess, the fitness industry. (SP5)*

*We are in a modern age of technology, things are at our fingertips, information is at our finger tips [...] I just googled 'post-cycle treatment for steroids' and found a site, went to the site and*

*then this pop-up came up asking me if I wanted to purchase. (SP4)*

#### 2.3.2 Motivations for using steroids

While some research has been conducted on motivations for using steroids, many participants called for more research on this issue, especially as steroid use may be increasing and the base diversifying. Participants suggested a focus on whether 'it's more image-related than performance' (PO3), whether there is a relationship between 'working in particular industries and the pressures around those forms of work' (RE1), as well as motivations for use 'within their own cultural context' (PO1):

*I think motivations for use: what is it that actually drives people, and whether that be a young person who wants to be muscular for either aesthetic reasons or sporting reasons, to an older guy who has natural depletion of testosterone and he's seeking to get some sort of youth back and has chosen an illicit way rather than, for example, get involved in some sort of testosterone replacement therapy. (AD1)*

#### 2.3.3 Relationship between illicit steroids and other drugs

A smaller number of participants called for more research into the relationship, if any, between steroid use and other forms of drug use, suggesting that it would be useful and 'interesting to see what sort of profile it might have in regards to other drug use' (AD1). One participant raised concerns about the possibility that steroid use might act as a kind of 'gateway' for other forms of illicit drug use and encouraged researchers and policymakers to consider these questions:

*So, previously being injecting PIEDs, my guess is that maybe they wouldn't have ever thought of using, of being an injecting drug user with regards to [other] illicit drugs, but then [I'd like to know] how that relationship with the syringe will change that. So would they be more likely to inject crystal than smoke it for example? (SP7)*

## 2 Findings

### 2.4 Gaps in understanding of the harms associated with steroid use

Many participants spoke about the harms potentially associated with steroid injecting, calling for more research into these questions. This included concerns about the harms that can be associated with injecting steroids, particularly blood-borne virus (BBV) transmission.

#### 2.4.1 Harms associated with use

While some research exists on the harms associated with steroid use, several participants articulated a need for more work in this area to better understand 'the actual harms associated with injecting use of steroids' (PO3) As one participant explained:

*Well as usual, we sort of huff and puff about the harms. People though clearly find them very effective [...] It would be nice to have a bit more hard data about percentages and so forth, but I guess it's complicated and you're relying on anecdote and if these products are you know, not pharmaceutically pure, then it's hard to know exactly. (SP8)*

Participants called for more reliable research on many aspects of steroid use including:

*Stuff around health implications for long-term use. You know effects on organs, stress on your body, psychological factors, you know, stuff like body dysmorphia and you know also say, practices in terms of length of cycles and rest periods between cycles. (AD2)*

#### 2.4.2 Blood-borne viruses

Steroids can be administered in a variety of ways, including orally, but evidence suggests that the majority of people who use illicit steroids inject them (Larance et al. 2008; Grace et al. 2001; Bolding et al. 1999). People who inject illicit drugs are at greatly increased risk of blood-borne virus infection. In Australia, hepatitis C is of particular concern among people who inject drugs (Fraser & Seear 2011). BBVs can be transmitted through the sharing of needles and/or ancillary injecting equipment. Some research has found equipment

sharing among people who inject steroids (see Advisory Council on the Misuse of Drugs 2010b), but this evidence is patchy and inconsistent. One of the consultation participants noted that 'there's little if any evidence of sharing of equipment or sharing of vials' (AD2) but felt that more research on this was needed (see Aitken, Delalande and Stanton 2002). Two participants (SP3, SP7) referred to recent UK-based research indicating that BBV prevalence among steroid injectors is higher than in the general population. These findings were cause for concern, suggesting that BBV transmission among people who inject steroids should be a priority for researchers, policymakers and service providers.

There was a consensus that people who use steroids might inject with friends, share needles or ancillary injecting equipment. As with previous topics, participants expressed a concern about the lack of evidence on these issues. One participant noted that, unlike other harms often associated with steroid use (such as cardiovascular complications), the spread of BBVs within the steroid using community could 'turn around and bite you in the next few years' (SP8) if not addressed as a matter of urgency. Several participants shared stories about potentially problematic injecting practices, either from direct observation or contact with people who use steroids:

*The three cases that I've heard about recently, all had their steroids administered by a third party. All of them had what was described to be appalling injecting practices, so they hadn't really swabbed down the area, they hadn't waited for the alcohol solution to dry. (PO1)*

*A lot of the time guys are injecting each other, because they don't see themselves at risk, they don't take the precautions that they should with the blood and they'll be making things up and things will get contaminated. Benches will get contaminated and there's that cross-contamination there. (SP1)*

*I mean people have described blood everywhere from multiple insertions of small needles to the desired part, so it becomes multiply punctured [...] So it can be very messy and in terms of infection control and stuff, that's a really unsavoury picture isn't it? (SP8)*

## 2 Findings

***"I've got a lot of people learning from their mates in the gym..."***

(AD2)

*They'll come [to NSPs] and get a box of 100 barrels and yeah, they tend to get boxes rather than smaller amounts for day to day, and often, because we ask "is it just yourself or how many people, three or more?" and most of the time it would be three or more. Very rarely would someone be doing it on their own, which presents problems in terms of harm reduction stuff if they're using with other people, just making sure they are not sharing. (AD3)*

There was a strong consensus that information on the minutiae of injecting practices among people who use steroids is needed. This included 'where they use' (SP5), as well as initiation, patterns of use, and social aspects of use:

*The injecting patterns for this population, the use patterns [...] initiation into injecting PIEDs. Do people inject themselves? Are they injected by others? Do they inject others? I'm always really keen to understand that around any injecting process. You know, does it happen alone, is it happening in groups? What happens to the equipment? What's their understanding of blood borne viruses? Are they being tested for hep C, hep B, HIV? (SP7)*

One participant pointed researchers to previous work done with people who inject drugs, calling for similar new work with people who inject steroids:

*If we go back to the early days when Nick Crofts [a leading Australian BBV researcher] and others were videoing injecting techniques and seeing how crap people were in terms of self-administration of drugs, that kind of work hasn't been done amongst steroid users. (PO1)*

### 2.4.3 Knowledge of injecting-related harms

While risky injecting practices elicited a great deal of concern among consultation participants, a matter of equal importance was knowledge of risk among steroid injectors. One participant said that people who inject steroids often 'present with very

low [...] education around safe injecting and, you know, clean injecting and that sort of thing' (SP4), with the Internet being 'a great tool for information or misinformation' (PO3). It was thought that many people who inject steroids rely on 'word of mouth [...] and people just believe what they're told' (SP1). Several participants raised concerns about this process — the sharing of inaccurate information about use and safer injecting techniques:

*Through what's often called 'Bro Science', so it's stuff that's talked about in the gyms. (AD1)*

This lack of knowledge about risks led one participant to conclude that 'their biggest risk is that they don't see themselves as a risk' (SP1). Similar concerns were raised by others:

*I think they know that obviously not to share needles, I think that's across the board [...] They'd be way less informed of other factors, like you know, sharing other types of equipment other than just the actual needle. (AD3)*

*I've got a lot of people learning from their mates in the gym [...] and sometimes those passed on skills or knowledge isn't always the best. (AD2)*

*I was struck by the fact that five years ago [...] people were a lot more careful and I think what's happened is that, there's a sense that 'well, bad things don't happen and HIV is not an issue because we don't inject drugs; we inject steroids'. (PO1)*

*That's perhaps one of the quite striking things about men that I have seen that they appear at least on the surface to have a very detailed knowledge of these androgenic products, and perhaps that understanding is not really supported by scientific evidence, but nevertheless, they have a lot of views about how it should be administered and what the cycle should be and those sorts of details, which I think to most practitioners is rather bewildering because, well to me, it doesn't really make much sense. (SP8)*

## 2 Findings

### 2.5 Enhancing Australia's capacity to understand and respond to steroid use

A common theme across the consultation was that Australia faces several key barriers to understanding and responding to steroid use, to undertaking research effectively and to integrating research, policy and practice. At the centre of this issue was a need to better engage with the people who inject steroids in Australia.

#### 2.5.1 Barriers to understanding and responding to steroid use

Participants offered a range of possible explanations for the lack of fit between research, policy and practice. These included an over-reliance on research from the United States and Europe, without enough research on the specificities within Australia, but also concerns about an erosion of resources for the alcohol and other drug sector in Australia more broadly:

*I've found at a national level, all of the infrastructure that used to be in place that you could easily draw upon has just been systematically dismantled. You know cost-cutting has driven a lot of the reform, so the committees that used to exist and the networks aren't there. (PO1)*

A key barrier to understanding and responding to steroid use in Australia lies in difficulty accessing and engaging with steroid injectors. This was thought to be relevant to the current gap between research, policy and practice because it involves a 'secretive' (SP3), largely 'hidden group' (SP2) that injects 'behind closed doors' (SP1), and where 'the reality is people often won't disclose. There's a real stigma' (AD1). There was a general consensus that 'we don't really know very much about this population' (SP7), and that more work needed to be done to engage with them:

*It's a very difficult cohort to research. (AD1)*

*They tend to get very wary about people who don't look the part. (SP1)*

*Because it's illegal what they're doing, they're frightened to go anywhere. (SP1)*

*I think they're a group of people that don't trust necessarily health services. (RE1)*

*Probably the biggest issue that I've noticed is [...] the difficult nature of reaching the client group in terms of getting access for them and that trust and I think because they do see themselves as different. (AD3)*

As well as hindering research, difficulties in accessing steroid injectors were thought to be linked to Australia's capacity to provide effective safer injecting and harm reduction advice. There was a strong view among consultation participants that people who use steroids might not see any need to be involved in research and/or to receive harm reduction advice, because they do not see themselves to be at risk:

*Probably because the steroid users don't see themselves as an injecting drug user. Some of the guys come in and say: 'look, I'm not a junkie but I need some needles'. (SP5)*

*Being steroid users, they don't see themselves at risk of blood-borne viruses. As far as they're concerned, you know some of the terms you'll get out of their mouths is: 'I'm not a junkie', or 'I'm not a drug user', so they don't see themselves at risk and in their injecting procedures, they put themselves at risk all the time. (SP1)*

*Yeah, I guess going back to what I previously stated around gay men not seeing it as a drug of misuse. You know, that it's more of a health — it's sort of perceived as a health supplement or a kick starter. (SP4)*

*I think — it's interesting when I've conducted clinical drug assessments, that when you mention steroids, clients don't associate steroids with drug use. You know, you get this look 'Oh, is it a drug?' [...] people don't see it as a drug or a substance that can be misused. (SP4)*

## 2 Findings

***[Engagement with] the fitness industry is going to be really key***

(SP7)

### 2.5.2 Strategies for researching and responding to steroid use

While participants identified unique challenges for understanding and responding to steroid use in Australia, they also agreed that this work

was needed. Several suggestions for how to access people — both for research purposes and for providing safer injecting and harm reduction information — were offered. These strategies are detailed in Table 2, below.

Strategies	Indicative quotations
<b>Work on establishing trust</b>	<i>[Injecting] steroids and performance-enhancing substances [occurs within a] community and so it's about accessing their community and gaining the trust for them to talk with you. (PO2)</i>
<b>Engage with key stakeholders (1) — Industry</b>	<i>[Engagement with] the fitness industry is going to be really key (SP7)</i> <i>Link in with some of the larger gyms that are renowned for steroid use (AD2)</i>
<b>Engage with key stakeholders (2) — User groups</b>	<i>Make sure that drug user organisations are included, [that] would be really good. (SP7)</i>
<b>Engage with key stakeholders (3) — Community figures</b>	<i>Get in contact or find if possible, some of the gatekeepers in those communities as well, who then can distribute information on the study on their behalf (AD2)</i>
<b>Use multiple recruitment strategies</b>	<i>It's not a population that particularly is incentivised by very small financial payments, I don't think that's a really — it's ethical to do that of course — but I don't think that's the primary reason why people who inject performance-enhancing drugs participate in research. (SP8)</i>  <i>It would be ideal to also recruit study participants through online forums. It's hard to know exactly who accesses these, but I would say that it seems to be a primary source of information on the range and function of PIEDs, as well as injecting techniques. (RE1)</i>  <i>It's the needle syringe workers who are most likely to come in regular contact with these guys and you know, I think that is a well proven route for people to be able to access good advice and treatment or further referral opportunities, so I think building on that is probably one's best move. (SP8)</i>
<b>Be sensitive in recruitment</b>	<i>[Be] mindful of not stigmatising those who are completing the survey and [use] non-judgmental kind of language and that kind of stuff [...] how many times I've come across final drafts of survey questions for things and I'm thinking, 'Man, there are some really loaded questions here', and you just be, yeah, careful of not putting off the people you are trying to source information from. (AD2)</i>

Table 2: Strategies for researching and responding to steroid use

## 2 Findings

### 2.6 Working towards more effective harm reduction strategies

Despite the many barriers to engagement described above, participants were confident that effective harm reduction strategies could be developed. As one explained, ‘a lot of risks could be mitigated with good information’ (SP2). Given that steroid use can be associated with certain harms, there was a consensus that Australia needed to take action to address them:

*If this is a community of people that are experiencing harms, then is there something that we can do to get better information to them? (PO2)*

*If we're not giving them the ability to make an informed decision, then we as a society are lacking. (SP2)*

To this end, many participants stressed the urgent need for engagement and educational work to be done, carefully grounded in research into the informational needs, concerns and experiences of people who use steroids. Existing safer injecting advice for people who inject other illicit substances was seen to be insufficient for the reasons mentioned above (i.e. that people who use steroids might not see themselves as people who inject drugs – PWID), so that many of ‘the messages out there for injecting drug users, don't reach these guys’ (SP5). As one participant explained,

*What the right model is, I don't yet know. Hopefully, research will help us point to that, or a variety of options that need to be tried. (SP2)*

Suggestions for more targeted and effective harm reduction strategies are detailed in Table 3, below.

Suggestions for future harm reduction strategies	Indicative quotations
<b>Ensure messages acknowledge difference from other forms of IDU</b>	<p><i>They do see themselves as completely different to our client group and they do like to have it acknowledged that they are not the same. (SP3)</i></p> <p><i>The whole sense of exceptionalism — ‘we're different’ — I think [is] absolutely right. I think there is a sense of that. However, that maybe gives us clues as to how a slightly different approach is needed, because the traditional routes for the intravenous, on the whole intravenous injectors we see in Australia, may pass us by completely because as you say, they're different. So perhaps we need to develop a new language or a new way of targeting these individuals. (SP8)</i></p>
<b>Be creative in designing and delivering messages</b>	<p><i>They really think they're quite a savvy community. So we were thinking that you've got to be much more nuanced in the kind of messages you give to them. (PO1)</i></p>
<b>Consider regulatory responses and options</b>	<p><i>I'd be really interested to know how gym owners view this whole thing and then how they, you know, any policy that might be made on a health regulatory even system, might influence them to do certain things. It might provide needle disposal units and have you know, something like swabs around. (SP3)</i></p>
<b>Ensure formats are accessible and responsive to change</b>	<p><i>So it's getting that information that's there to the people that need it in a format that they can access and trust in a timely way. (SP2)</i></p> <p><i>Getting effective education to people that are using or considering using performance-enhancing drugs that's credible, reliable and in a format that is trusted and can be easily received. (SP2)</i></p>
<b>Ensure the message responds to needs and concerns of the cohort</b>	<p><i>In terms of image enhancement, which is a sort of an individual exercise, it sort of needs a different response and I don't think — it's a very challenging turf to find what the appropriate response and messaging is. (PO2)</i></p> <p><i>Well I think we have to try trading on what's important to them, which is their appearance. (SP8)</i></p>

Table 3: Suggestions for developing more targeted and effective harm reduction strategies

# Conclusion

This report sets out findings from a national consultation on steroid use in Australia, undertaken between late 2014 and early 2015. The findings are based on interviews with a range of key stakeholders in policy, service provision, advocacy and research. Participants identified a clear lack of fit between research, policy and practice in Australia.

They argued for more research that supported policy and service provision, and targeted harm reduction strategies in particular. The consultation found that most participants believe steroid use in Australia is on the rise, and that despite their best efforts to respond, many service providers feel unprepared to deal with these developments. Participants suggested a need for more research on prevalence as well as changing patterns of use. Although there has been little research in Australia on the relationship between steroid injecting and blood-borne viruses, particularly hepatitis C, most participants took the view that people who inject steroids are at risk of blood-borne virus transmission through the sharing of needles and ancillary equipment. Several participants recounted examples of unsafe and potentially risky injecting practices among people who inject steroids. They noted that people who use steroids often do not consider themselves to be at risk, because they associate injecting risks and hepatitis C with 'junkies' and drug 'addicts'. These findings suggest a need for more research on injecting practices among people who use steroids in Australia, with a special focus on BBV transmission risks. The consultation also found that researchers, policymakers and service providers face particular challenges in responding to steroid use in Australia. These include the difficulties in engaging with a changing and heterogeneous population of people, because steroid use is hidden, secretive and stigmatised. The consultation includes a number of practical recommendations for better engaging with these populations, both for the purposes of future research and for more targeted and effective harm reduction strategies.

# Appendix A

## Table of participants

No.	Pseudonym	Area	State/Territory
1	<b>PO1</b>	Policy	South Australia
2	<b>SP1</b>	Service Provision	Victoria
3	<b>AD1</b>	Advocacy	Victoria
4	<b>SP2</b>	Service Provision	Victoria
5	<b>SP3</b>	Service Provision	Victoria
6	<b>SP4</b>	Service Provision	Victoria
7	<b>SP5</b>	Service Provision	Queensland
8	<b>PO2</b>	Policy	Victoria
9	<b>SP6</b>	Service Provision	Western Australia
10	<b>PO3</b>	Policy	Queensland
11	<b>AD2</b>	Advocacy	New South Wales
12	<b>RE1</b>	Research	New South Wales
13	<b>SP7</b>	Service Provision	Tasmania
14	<b>AD3</b>	Advocacy	New South Wales
15	<b>SP8</b>	Service Provision	Queensland

# Appendix B

## Letter of invitation

Dear [insert name of invited participant],

*Invitation to participate in a national consultation on new research into the use of steroids in Australia:  
Ethics approval number: RDHS-09-14*

*We are a group of researchers developing a new research project on the use of steroids in Australia.  
We are particularly interested in ensuring our study is geared towards the contemporary needs of  
research and service provision in this area.*

*As part of the preparation for this study, we have decided to conduct a consultation with key stakeholders,  
researchers and who have made important contributions to this field. The proposed  
consultation will explore a number of matters related to steroid use, including:*

*Key issues for research into steroid use in Australia, and for appropriate and effective social  
and public health responses to steroid use;*

- ▶ *Potential gaps in Australia's knowledge about steroid use;*
- ▶ *The fit between research on steroid use and policy and practice in Australia;*
- ▶ *Views on the scale of steroid use in Australia;*
- ▶ *Strategies for feeding back research to policy and service delivery in this area.*

*One purpose of this work is to help us shape and refine our proposed research.*

*Participation in this consultation will involve a telephone or in-person interview of approximately  
30 minutes' duration, to be arranged at your convenience.*

*At the end of the process, a report will be produced and circulated to all participants, as well as made publicly  
available. We will also produce a research paper out of the consultation to be published in a peer-reviewed journal.*

*If you are able to be involved, or have any questions about the consultation and wish to know more, please contact Dr  
Dean Murphy (Consultation Coordinator) by email: [Dean.Murphy@curtin.edu.au](mailto:Dean.Murphy@curtin.edu.au)*

*We look forward to speaking with you.*

*Yours sincerely,*

*Dr Kate Seear (Chief Project Investigator, on behalf of the research team)  
Adjunct Research Fellow,  
National Drug Research Institute, Curtin University, Melbourne Office*

# Appendix C

## Questions for participants

- 1.** How would you describe your work? How does it relate to steroids?
- 2.** What do you consider to be the key issues for social research into steroid use in Australia, and for appropriate and effective social and public health responses to steroid use?
- 3.** Are you aware of any social research being conducted into steroid use in Australia? Has any of this work struck you as especially productive? If so, how?
- 4.** Are there gaps in Australia's knowledge about steroid use, and if so what are they?
- 5.** In general, how would you describe the current fit between research on steroid use and policy and practice in Australia?
- 6.** Our work is concerned with the spread of blood-borne viruses through steroid injecting. In a new study we're planning, we aim to interview people who inject steroids to learn more about their practices, the risks of transmission and opportunities for intervention. This includes exploring the best ways to deliver harm reduction advice and information to people who inject steroids.
  - a. FOR SERVICE PROVIDERS AND POLICY:** Do you have any suggestions for enhancing the relevance of the study to your work? Do you have any suggestions for strengthening the link between the study and the key issues you have identified?
  - b. FOR ACADEMICS:** Do you have any suggestions for strengthening the link between the study and the key issues you have identified?
- 7.** Much about the steroid debate currently inspires controversy. What is your view on the disagreement surrounding the true scale of steroid use?
- 8.** We aim to ensure our planned project effectively draws on policy and service provider expertise in formulating and implementing the research and its outcomes. Can you recommend ways in which this would be best achieved? We're keen to consider innovative ideas to ensure the research is as useful and accessible as possible.

# References

---

- Advisory Council on the Misuse of Drugs. (2010a). *Consideration of the anabolic steroids*. London: Home Office.
- Advisory Council on the Misuse of Drugs. (2010b). *Consideration of the anabolic steroids - annexes*. London: Home Office.
- Aitken, C., Delalande, C. and Stanton, K. (2002). Pumping iron, risking infection? Exposure to hepatitis C, hepatitis B and HIV among anabolic-androgenic steroid injectors in Victoria, Australia. *Drug and Alcohol Dependence*, 65, 303-308.
- Australian Crime Commission. (2013a). *Organised crime and drugs in sport*. 2013a; Canberra, Author.
- Australian Crime Commission. (2013b). *Illicit Drug Data Report 2011-12*. Canberra, Author.
- Australian Institute of Health and Welfare. (2014). *National Drug Strategy Household Survey detailed report 2013. Drug statistics series no. 28. Cat. no. PHE 183*. Canberra: AIHW
- Bahrke, M.S., & Yesalis, C.E. (2004). Abuse of anabolic androgenic steroids and related substances in sport and exercise. *Current Opinion in Pharmacology*, 4, 614-620.
- Bolding, G., Sherr, L., Maguire, M., & Elford, J. (1999). HIV risk behaviours among gay men who use anabolic steroids. *Addiction*, 94 (12), 1829–1835.
- Castillo, E., & Comstock, R. (2007). Prevalence of use of performance-enhancing substances among United States adolescents. *Pediatric Clinics of North America*, 54, 663-675.
- Evans-Brown, M., & McVeigh, J. (2009). Anabolic steroid use in the general population of the United Kingdom. In: Møller, V., Dimeo, P. and McNamee, M. (eds). *Elite sport, doping and public health*. Denmark: University of Southern Denmark Press, 75-97.
- Fraser, S., & Seear, K. (2011). *Making disease, making citizens: The politics of hepatitis C*. Aldershot: Ashgate.
- Grace, F. M., Baker, J. S., & Davies, B. (2001). Anabolic androgenic steroid use in recreational gym users: a regional sample of the Mid-Glamorgan area. *Journal of Substance Use*, 6 (3), 189–195.
- Iversen, J., Topp, L., Wand, H., & Maher, L. (2013). Are people who inject performance and image-enhancing drugs an increasing population of Needle and Syringe Program attendees? *Drug and Alcohol Review*, 32, 205–207.
- Larance, B., Degenhardt, L., Copeland, J., & Dillon, P. (2008). Injecting risk behaviour and related harm among men who use performance- and image-enhancing drugs. *Drug and Alcohol Review*, 27, 679–686.
- McVeigh, J., Beynon, C.M., & Bellis, M.A. (2003). New challenges for agency based syringe exchange schemes: analysis of 11 years of data (1991–2001) in Merseyside and Cheshire, United Kingdom. *International Journal of Drug Policy*, 14, 399–405.
- Rich, J.D., Foisie, C.K., Towe, C.W., Dickinson, B.P., McKenzie, M., & Salas, C.M. (1998). Needle exchange program participation by anabolic steroid injectors, United States. *Drug and Alcohol Dependence*, 56, 157-160.