



SA Health



Drug & Alcohol Services
South Australia

Qualitative Field Study for Users of Performance and Image Enhancing Drugs

Dennington, V¹, Finney-Lamb, C², Dillon, P², Larance, B², Vial, R¹, Copeland, J²,
Newcombe, D¹, Ali, R¹

¹Drug and Alcohol Services South Australia.
²National Drug and Alcohol Research Centre

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Table of Contents

Glossary	v
Acknowledgements	vii
Executive summary	viii
SECTION 1 INTRODUCTION	1
1.1 Introduction	1
1.2 Epidemiology	1
1.3 Reasons for PIEDs use	2
1.4 Populations of PIEDs users	2
1.5 Side effects and potential harms	4
1.6 Aims of the present study	5
1.7 Study data sources	5
SECTION 2 METHODOLOGY	7
2.1 Study Design	7
2.2 Instruments	9
2.3 Data Analysis	10
SECTION 3 RESULTS	11
3.1 Demographic Characteristics of PIEDs Users	11
3.2 Demographic Characteristics of Target Groups	12
3.3 Demographic Characteristics of Key Informants	17
SECTION 4 QUALITATIVE ANALYSES	22
INTRODUCTION	22
4.1 Motivations to use PIEDS	22
4.2 Mediating factors affecting PIEDs use	30
4.3 Reasons for ceasing PIEDs use	32
4.4 Perceived difficulties in ceasing use	36
4.5 PERCEIVED HARMS OF PIEDS	37
4.6 HARM REDUCTION STRATEGIES	45
4.7 PIEDS USERS' EXPERIENCES WITH HEALTH SERVICES	47
4.8 ATTITUDES TO INFORMATION ON PIEDS	52
SECTION 5 DISCUSSION	65
SECTION 6 REFERENCES	69
SECTION 7 APPENDICES	72

List of Tables

Table 1: Age and gender by state.....	11
Table 2: Occupation - PIEDs user	12
Table 3: Target group by state.....	13
Table 4: Participants who identified with more than one target group	13
Table 5: Target group by sex of participant by sexual identity.....	13
Table 6: Level of education by target group.....	15
Table 7: Relationship status by target group	15
Table 8: Age of first PIEDs use - target groups	15
Table 9: Target group by kinds of substances used	17
Table 10: PIEDs injected in past twelve months by target group.....	17
Table 11: Key informants by state and gender	18
Table 12: Key informants highest level of education	18
Table 13: Specific populations with whom key information worked	19
Table 14: Number of key informants who had multiple contacts with individual PIEDs users in past 12 months.....	20

List of Figures

Figure 1: Length of regular use of PIEDs (years) by target group	16
Figure 2: Key informants by occupation.....	19
Figure 3: Substances reported used in the past 6 months.....	21

Glossary

Anabolic

Refers to substances which promote the building up of mass (in this report, the context is usually body mass) from its constituent elements (e.g. proteins and amino acid).

Anabolic Androgenic Steroid (AAS)

Anabolic-androgenic steroids are synthetic hormones that imitate male sex hormones (androgens) in the body. They can influence the development of primary and secondary sex characteristics such as body hair, deepening of the voice, development of the male sex organs and sex drive ('androgenic effects') as well as influencing the development of lean body mass ('anabolic' effects).

Bulking

Refers to an increase in muscle mass and weight, often gained through the process of consuming excess calories, but can also be achieved through the use of PIEDs. Gains in muscle mass also incorporate some gains in body fat.

Catabolic

Refers to substances which promote the breaking down of mass (in this report, the context is usually body fat) to its constituent elements.

Cutting

Refers to the process of decreasing body fat to a point where muscle definition, visible separation and the visual appearance of the veins below the skin are 'satisfactory'. The process of cutting also involves losing some muscle mass.

Cycling

Refers to a pattern of use, in which anabolic-androgenic steroids are used for a set period of time followed by a period of non-use. Users commonly report a typical cycle or 'course' lasts for 6-8 weeks followed by a drug free period of the same length of time.

Ergogenic

Refers to substances that can increase the body's capacity for physical work or mental output. In the context of sports, ergogenic substances may give a competitive edge.

Performance and image enhancing drugs (PIEDs)

'PIEDs' refers to those substances that are used to enhance sporting performance (e.g. improving strength and/or endurance), mask the use of performance-enhancing drugs to avoid drug testing, improve the body's appearance (e.g. increasing muscle size and/or reducing body fat), and to manage the side effects of AAS use.

Pyramiding

Refers to the practice of varying the dose of AAS taken within the use cycle. Typically, the dose starts off low and builds to a peak mid cycle and then tapers off again towards the end of the cycle.

Stacking

Refers to the practice of taking two or more PIEDs consecutively in order to gain better results.

Synergistic

Refers to the effect achieved by taking a combination of substances - for example the combination of AAS (to build muscle) and hGH (to decrease subcutaneous fat and define muscle).

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Executive summary

This report presents findings from a collaborative research project undertaken in 2006 by Drug and Alcohol Services South Australia (DASSA), National Drug and Alcohol Research Centre (NDARC), and Streetwise Communications. The project consisted of a qualitative field study of users and key informants on the use of performance and image enhancing drugs (PIEDs) and was funded by the Australian Government Department of Health and Ageing Drug Strategy Branch. The aim of the study was to explore the motivations, behaviours, risks and physical and psychological harms associated with the use of PIEDs.

The study design encompassed a national qualitative survey of 69 users of PIEDs from three target groups: adolescent males, members of the gay community, and occupational users (i.e., those engaged in the security industry); and a survey of 24 key informants who have good knowledge of the three target groups. Interviews were conducted within metropolitan and rural locations in NSW, Victoria, Queensland, South Australia and Western Australia. The majority of user participants were employed males who ranged in age from 18 to 58 years. All key informants were employed, and they ranged in age from 31 to 59 years.

Participants interviewed reported on a range of topics including experiences of PIEDs use, attitudes to information use, harm reduction strategies and experiences with health services. Motivating factors given for PIEDs use focused on physique and body image, with an increase in body size, strength, and muscle tone reported as valued outcomes for all three target groups. Participants also attributed gains in physique and body image to social benefits or advantages in occupational and sporting fields. Some users also reported being motivated by their experience of a heightened sense of energy, or a lift in mood whilst using PIEDS.

Participants had various attitudes to the experiences of risks associated with PIEDS use. PIEDS users commented on their attitudes to the following perceived risks: roid rage and changes in mood, damage to vital organs (kidney, liver and heart), breast development, testosterone imbalances, testes shrinkage, sexual infertility, diminished sexual performance, hair loss, blood borne viruses, injecting harms (such as skin infections and abscesses), infections resulting from the use of counterfeit or contaminated products, cancers, acne, anaemia, diabetes and injuries to the ligaments and tendons. Key informants reported they were concerned that whilst PIEDs users were aware of the need to use sterile equipment, they were unaware of other safer injecting practices. Participants expressed different opinions about how common roid rage was amongst PIEDS users. Some users thought it was very rare, others disagreed, particularly if high doses or injectibles were used. Some users reported that they thought their personal susceptibility to the risk of roid rage was low because they were not taking high doses of PIEDS, or were not using them long-term. In addition, some participants reported that they used medications to counter effects, or used anger management, stress reduction, and self monitoring techniques to reduce social harms related to roid rage and swings in mood.

Users expressed common concerns about short-term and long-term harms associated with PIEDs use and reported that they would stop using if they experienced serious health problems that would

result in severe long term negative consequences. Participants described physical changes such as breast development, shrunken testes, or baldness as particularly undesirable side effects and some participants reported that they would contemplate ceasing use if they experienced these harms. Importantly, side effects relating to sexual function were frequently nominated as issues of great concern to participants in the young male group.

The impact of PIEDs use on personal relationships (partners and parents in particular) was mentioned as possibly motivating a decision to cease use. Some participants indicated that changes in personal circumstances, such as getting married and having children, or changing jobs would also be likely to result in them choosing to stop using PIEDs. In addition, participants reported that they would think about stopping PIEDs use in the future if they needed to stop training, had reached their body building or competition goals, were no longer working in their occupation, or were no longer able to afford to buy PIEDs.

User perceptions of some of the difficulties and potential difficulties of ceasing PIEDs use were also explored. Difficulties mentioned included the fear of losing the physical benefits already achieved, experiencing a negative impact on their training regime, living with testosterone imbalance or living with unsightly breast tissue. Participants also perceived a certain amount of peer pressure to continue using PIEDs.

Reported harm reduction strategies included: identifying high quality products that were less likely to have side effects; drinking water to flush out the kidneys; having regular blood tests for kidney and liver function; taking medications to counter harms (e.g. to re-activate testicular function), and taking low doses of PIEDs.

A wide range of information sources were identified by participants including: websites; internet forums; magazines; medical journals; dealers, general practitioners and other PIEDs users. However, participants expressed uncertainty about the credibility of information across the various sources. Information was considered reliable if it reported both the negative and positive effects of PIEDs and it came from a credible source. Some participants reported that they could not find any specific information on the negative effects of PIEDs and reasons why not to use.

Potential information sources identified included hotlines, personal trainers, information sessions and youth education strategies were identified as. Perceived information needs included: information on dosages; medications to counter side effects; product information (including counterfeit products); safer injecting practices; health harms and symptoms that require a medical intervention and medical services, and body building.

Participants noted that there were different levels of knowledge about PIEDs use. In particular, concern was expressed about the level of knowledge held by young men because of their age and the length of time they had been using PIEDs. Some members of the young male group also reported more difficulty in accessing and understanding information available on PIEDs use.

Participants sought a variety of 'services' from health professionals such as general practitioners including: information and advice; monitoring health; health care for specific PIEDs related problems such as abscesses, and prescriptions for a range of pharmaceutical PIEDs products.

Health professionals' lack of PIEDs related knowledge was reported by PIEDs users to be a potential barrier to accessing health care, as some users regarded themselves as more informed than their health care provider. Users also reported that potential negative reactions from health professionals (e.g., disapproval, and or denial of access to treatment), presented a barrier to accessing health services and or disclosure of their PIEDs use.

Overall, the findings of this study confirm previous research suggesting that the desire for an improved body image is a major motivating factor for PIEDs use. This study also supports conclusions from previous research highlighting the need for evidence based non-judgmental, practical information that addresses areas of interest and concern to PIEDs users and health care professionals. Several key recommendations are made as follows:

- Incorporate PIEDs information, including short and long-term health concerns, within current school-based drug prevention programs.
- Produce a booklet addressing common misunderstandings about PIEDs use and harm reduction strategies.
- Incorporate information about PIEDs in education courses for personal trainers that is provided through recognized training institutions.
- Review current security industry personnel training to ensure the emphasis is on the use of 'talk down' methods, rather than 'size' when dealing with difficult clientele.
- Provide information based training on PIEDs use to medical practitioners and other health professionals and NSP workers.
- Provide information to sporting clubs about the use of PIEDs, with the view to promoting the dissemination of preventive messages through these organisations.
- Develop a 'high quality' website which provides information to those contemplating PIEDs use, and disseminates information about PIEDs use to health professionals.
- Consider the introduction of drug testing for PIEDs in industries where PIEDs use is likely to be common.

Future Research

It is also recommended that the following research be conducted to support the development of prevention strategies.

- Despite barriers to access, research within the fitness industry should be conducted to explore current attitudes towards the use of PIEDs by both management/owners and employees, with the aim of identifying acceptable ways of distributing PIEDs related information through gymnasiums.
- Further research into the harm reduction strategies currently employed by users should be conducted to assess whether they are effective and to ensure that they are not causing greater harm.

SECTION 1 INTRODUCTION

1.1 Introduction¹

Performance and Image Enhancing Drugs (PIEDs) refer to substances that are generally used to enhance muscle growth ('anabolic' effects) or to reduce body fat ('catabolic effects'). The expected benefits of using these types of substances range from increasing the size and definition of muscles, reducing water retention and body fat, to increasing physical strength and endurance (Bahrke & Yesalis, 2004). The major substances of concern are human and veterinary anabolic-androgenic steroids (AAS), human growth hormone (hGH), other reproductive hormones, diuretics, stimulants, beta-2 agonists (e.g., clenbuterol), creatine monohydrate and hormones such as insulin (IGF-1) and thyroxine (Henry-Edwards, 2004). The most commonly used PIEDs are AAS.

In Australia, the range of PIEDs that are available tend to include over-the-counter food supplements, medicines that are commercially produced for human use, medicines that are commercially produced for veterinarian use and substances that are illicitly produced (Australian Crime Commission, 2003), many of which are prescription-only medicines that have been diverted to the black market.

Concern regarding the use of PIEDs outside the arena of elite sport was first highlighted in the early 1990s in the reports on Drugs in Sport of the Senate Standing Committee on Environment, Recreation and the Arts (Parliament of the Commonwealth of Australia, 1989, 1990). The committee expressed its concern about PIEDs use within gymnasia by body builders, the fitness community and workers in the security industry as well as very young aspiring athletes. During the same period, the non-sporting use of PIEDs emerged as an issue in the popular media and became increasingly obvious to some drug and alcohol workers and sports medicine practitioners (Braithwaite & Nicholas, 1996; Causton, 1993; Millar, 1996a, 1996b).

1.2 Epidemiology

A number of studies were undertaken in Australia during the 1990s to identify characteristics of users and the patterns and correlates of use (Beel, 1996; Beel, Maycock, & McLean, 1998; B. Maycock & Hansen, 1998; Mugford, 1995; Peters, Copeland, & Dillon, 1999; Plowright, 1993).

Data from the National Drug Strategy Household Survey indicate that use of PIEDs doubled between 1993, when 0.09% of the population reported use in the past year, and 2001, when the proportion reporting use in the past year had increased to 0.2%. Data from 2004 indicate that PIEDs use in Australia has decreased (Australian Institute of Health and Welfare, 2005). However, the prevalence of non-medical use of PIEDs is likely to be under-reported in Australia for number of reasons (Larance et al., 2005b). Firstly, regular AAS users report that their use is heavily stigmatised (Monaghan, 1999, 2002c; Wright, Grogan, & Hunter, 2000); and secondly, surveys such as the National Drug Strategy Household Survey (NDSHS) ask about AAS use in the context of other illicit drug use – this is an issue since many in the bodybuilding and gym community do not

¹ The literature presented in this report is an abridged version of the literature review prepared for the current project (Larance, Degenhardt, Dillon, & Copeland, 2005b)

identify their PIEDs use as “recreational” or “illicit” (Larance et al., 2005b). Community surveys also assume that PIEDs prevalence is distributed equally across geographical locations, which is probably not the case, as there may be some suburbs or communities in which there are higher rates of use (Larance et al., 2005b).

1.3 Reasons for PIEDs use

A number of different PIEDs are used for a variety of reasons. For example, PIEDs are used to enhance muscle size, muscle definition, fat loss, to circumvent drug testing (masking) and to manage side effects of AAS use. Although some PIEDs have legitimate medical applications (Bahrke & Yesalis, 2004; Evans, 2004; Kicman & Gower, 2003) some are used without medical supervision and for entirely different purposes to their intended uses (e.g.: the use of anti-oestrogens, HCG, insulin and clenbuterol) (Cafri & Thompson, 2004; M.J.N Drummond, 2005; Harvey & Robinson, 2003; Leit, Gray, Harrison, & Pope, 2002; Olivardia, Pope, Borowiecki III, & Cohane, 2004; Olivardia, Pope, & Hudson, 2000; Peixoto Labre, 2002; Pope, Kouri, & Hudson, 2000; Schwerin et al., 1996; Wroblewska, 1997). In addition, there is an increasing range of untested sports and bodybuilding ‘supplements’ being promoted and used. (Larance et al., 2005b).

There is lively debate about whether the perceived medical benefits of some non-medical use of PIEDs have scientific credibility and some of the reported benefits of PIEDs remain untested (Larance et al., 2005b). However, in the case of AAS, there is now good evidence that supra-physiological doses of AAS can increase lean muscle mass (Bahrke & Yesalis, 2004; Evans, 2004; Kuhn, 2002; Shahidi, 2001).

1.4 Populations of PIEDs users

Although the use of PIEDs within elite sports has had a high profile in the media, there are a number of other groups of users who have received less attention, including young men, gay men, competitive bodybuilders, men who train with weights and occupational users (Australian Olympic Committee, 2000; Bolding, Sherr, & Elford, 2002; Peters et al., 1999; Peters, Copeland, Dillon, & Beel, 1997; Shapiro, 1994). Individual motivations and functions of PIEDs use vary greatly (Peters et al., 1999), and although there may be increasing numbers of women who use AAS and other PIEDs, the majority of AAS users remain male (Larance et al., 2005b).

1.4.1 Body Image users

Recent research has indicated that a growing number of men have concerns over body image (Cafri & Thompson, 2004; Drummond, 1994; Edwards & Launder, 2000; McCabe & Ricciardelli, 2004; Olivardia et al., 2004; Pope et al., 2000; Schwerin et al., 1996; Wroblewska, 1997). The ‘masculine’ physique of broad shoulders, muscular arms, v-shaped torso with a 6-pack abdomen has become a familiar ideal in the media (Grogan & Richards, 2002; Leit et al., 2002; Leit, Harrison, Pope, & Gray, 2001; Schwerin et al., 1996; Wroblewska, 1997). If the body image concerns of men are understood in terms of the ‘drive for muscularity’, rather than the ‘drive for thinness’, body image concerns among men of all ages appear widespread (Larance et al., 2005b). The pressure to ‘look good’ comes from internal and external sources (Larance et al., 2005b). Improved body

image and appearance are increasingly being identified as major motivational factors for non-medical use of PIEDs (Leit et al., 2002; Peters et al., 1999).

1.4.2 Adolescents

One group that has frequently identified as being at risk from PIEDs use is adolescents. The prevalence of non-medical AAS use among adolescents certainly appears to be higher than that among the general population (Larance et al., 2005b). While there is evidence that adolescent PIEDs use is associated with involvement in power sports and perceptions of having a poorer body image, there is also evidence that adolescent AAS use is part of a wider problem behaviour syndrome including risk-taking, truancy, and alcohol and other drug use (Handelsman & Gupta, 1997; Kindlundh, Hagekull, & Isacson, 2001; Miller, Barnes, Sabo, Melnick, & Farrell, 2002; Pedersen, Wichstrom, & Blekesaune, 2001; Wichstrom & Pedersen, 2001). Pedersen et al (2001) examined the relationships between adolescent AAS use, violence and victimization in detail. They conclude that AAS may not be a direct causal factor in the etiology of adolescent violence, but might serve as a marker of membership in a violent subculture of adolescents (Pedersen et al., 2001).

Adolescents are believed to be even more in tune with the socio-cultural and media-driven 'ideal' male physique, and perhaps more vulnerable to PIEDs use (Australian Olympic Committee, 2000; Drummond, 2005; McCabe & Ricciardelli, 2004; Peters et al., 1999; Thomson, 1999). Evidence from studies examining social, developmental and peer pressure issues appear to support the view that anxiety concerning body image in males can and does exist (Cafri & Thompson, 2004; Drummond, 1994; Edwards & Launder, 2000; McCabe & Ricciardelli, 2004; Olivardia et al., 2004; Pope et al., 2000; Wroblewska, 1997). In addition, adolescent AAS use has been found to be associated with average/low self-esteem, and users are more likely to be preoccupied with body shape and be more dissatisfied with the appearance of their shoulders (Kindlundh et al 2001; Irving et al 2002). Recent research also seems to indicate that adolescent PIEDs use is not simply related to sports involvement or body image, but there is a range complex socio-cultural and developmental factors that may contribute to adolescent use.

1.4.3 Occupational users

For some, the use of AAS serves a direct purpose, usually to assist users carrying out employment duties (Shapiro 1994). The ways in which AAS are perceived to give a 'physical edge' are two-fold. First by producing an enhanced physique; second by producing enhanced levels of aggression. Moreover, the functional use of 'increased arousal' may be attractive to professions where there is a need to react quickly and confidently (Thiblin, 1999). The example provided by Dart 1991 (cited by Peters et al 1997) is of policemen who as their concern for their ability to protect themselves increases are more likely to use AAS to give them the 'physical edge they fear they lack'. AAS use in other professions, such as the fitness or construction industries, may be based on the concept of 'bodily capital', where the body is viewed as an economic asset (Monaghan, 2002a).

The kinds of professionals that may be at risk of functional misuse of AAS and related substances include: police; door staff/ security personnel; bodyguards; fire fighters; members of the armed

forces, and members of street gangs (Australian Olympic Committee, 2000; Maycock, 1999; Monaghan, 2002a, 2002b; Mugford, 1995; Peters et al., 1997). Although occupational or functional use of AAS has been demonstrated in a number of groups (Maycock & Beel, 1997; Mugford, 1995; Peters et al., 1997; Shapiro, 1994; Thiblin, 1999), it is premature to conclude that one occupational group is most 'at risk'.

1.5 Side effects and potential harms

The most common physical side effects of AAS include acne, reduced size of testicles, abnormal breast development (gynaecomastia) in men, masculinisation in women and children, abnormal liver function (elevated enzymes), injection site pain and the alteration of blood lipids (that can increase the risk of hardening of the arteries and blood vessels leading to decreased blood flow and increased risk of heart attack or stroke) (Larance et al., 2005b). Changes in liver enzymes are most commonly associated with the 17alpha-alkylated AAS compounds (Larance et al., 2005b). While the evidence is less conclusive, other areas of concern include cardiomyopathy, coronary artery disease, cerebrovascular accidents, epiphyseal closure in children (prematurely halting normal growth), prostatic changes and changes in immune functioning (Bahrke & Yesalis, 2004; Evans, 2004; O'Sullivan et al., 2000). As most AAS are injected, users are also at risk of injection-related problems such as abscesses, blood-borne virus infections and injection-related injuries.

The most common psychological or behavioural effects of AAS include changes in sex drive (Riem & Hursey, 1995), increased irritability and aggression, impulsivity, depression, paranoia and sleep disorders (Bahrke & Yesalis, 2004; Clark & Hendersen, 2003; Corrigan, 1996; Daly et al., 2003; Evans, 2004; Maycock & Beel, 1997; Pope et al., 2000; Riem & Hursey, 1995). Furthermore, some AAS users experience symptoms of 'dependence' (using DSM IV criteria) (Copeland, Peters, & Dillon, 2000; Wood, 2004).

In general, there is very little in the international literature on the non-medical use of other PIEDs. The greatest risks appear to be associated with human growth hormone (acromegaly), insulin-like growth factor (diabetes) and insulin (causing a rapid drop in blood sugar, leading to confusion, coma and if untreated, death (Ehrnborg, Ellegard, Bosaeus, Bengtsson, & Rosen, 2005) . Fortunately, among PIEDs users in Australian studies report these substances are used infrequently (e.g. Larance et al 2005). More commonly, PIEDs users in Australian studies report using clenbuterol and anti-oestrogens (Larance et al 2005).

As most PIEDs mimic hormones and their precursors, the most likely harms will arise from the disruption and suppression of natural hormonal and metabolic systems (Larance et al., 2005b). While there are case reports in the literature of sudden deaths and serious events associated with PIEDs use, it has been difficult to establish whether these are due to any one substance, polydrug interactions or idiosyncratic responses. Each of the substances discussed here has the potential for unwanted side effects, even in clinical settings. Intuitively, transferring these substances to naturalistic settings of non-medical use might see these risks increase. Anecdotal advice suggests that intermittent use, with lengthy rest periods, may reduce the incidence of potentially serious long-term side effects and harms. These assertions however, have not been empirically tested. While the

overall incidence of serious or fatal complications is probably low, there are likely to be negative health and psychological effects in both the short and long term (Larance et al., 2005b). PIEDs use is challenging for health professionals as using these substances appears to contradict the otherwise healthy lifestyles and rigorous training activities that many users are engaged in (Larance et al., 2005b; Monaghan, 1999). In Australia, where obesity rates have more than doubled over the last twenty years (Cameron et al., 2003), health messages are focusing on the importance of health, weight and fitness (Larance et al., 2005b). But seemingly in contradiction, men are using PIEDs in order to help achieve an increase in 'fat free mass' and to project what is believed to be a 'healthy' appearance. Many users do not report serious harms (either physical, social or psychological) and most feel that the benefits of use outweigh the risks (O'Sullivan et al., 2000; Peters et al., 1999). Concepts such as 'cycling', 'stacking', 'bulking', 'cutting' and 'synergy' for the purposes of muscle enhancement remain grounded in street talk and anecdotal evidence, and remain untested in scientific research (Larance et al., 2005b). Nevertheless, the non-medical use of AAS is planned on the basis of these strongly held beliefs (Larance et al., 2005b).

There is very little or no data on the non-medical use of 'other PIEDs' (Larance et al., 2005b), which means that there is limited evidence on which to base prevention and harm reduction messages and strategies and the potential harms of long-term use of PIEDs need to be investigated in greater detail.

Non-sporting PIEDs users are somewhat suspicious of previous research findings and the medical profession in general, and there is a need for more targeted resources (Larance et al., 2005b). The current research aims to contribute to the evidence base for targeted demand and harm reduction programs that will be received by non-sporting PIEDs users as credible and informed.

1.6 Aims of the present study

1. To explore the motivations, behaviours, risks and physical and psychological harms associated with the use of performance and image enhancing drugs (PIEDs) among adolescent males, members of the gay community, and occupational users (mainly those engaged in the security industry across all professions).
2. To identify factors influencing the use of PIEDs for each target group (including motivations, body image issues, perceived positive benefits, social status, occupational issues, experiences with and barriers to treatment).
3. To make recommendations regarding the development of appropriate prevention and harm reduction messages and intervention strategies for each of the target groups.
4. To identify and make recommendations regarding future research in the area of non-sporting use of performance and image enhancing drug use in Australia.

1.7 Study data sources

This study was conducted in three parts:

1. A comprehensive review of the national and international literature in respect of the use of PIEDs for reasons other than improved elite sporting performance;
2. A national qualitative survey of current and past users of PIEDs from three target groups:-

- i. adolescent males.
 - ii. member of the gay community and
 - iii. occupational users; and
3. Qualitative interviews with key experts who have good knowledge of these target groups involved in the use of PIEDs.

SECTION 2 METHODOLOGY

2.1 Study Design

This qualitative study used a stratified purposive sample of PIEDs users from three target groups: adolescent males, member of the gay community, and occupational users (i.e., those engaged in the security industry); and key informants (KI) who have good knowledge of these target groups within metropolitan & rural locations in NSW, Victoria, Queensland, South Australia and Western Australia.

Qualitative semi-structured interviews were used in combination with the collection of demographic quantitative data. The quantitative measures provide objective details about participant populations while the qualitative interviews enable participants to describe their attitudes to and experiences of PIEDS use in their own words without restricting the information gained to pre-determined categories. The qualitative interviews provided participants with an opportunity to discuss in-depth the issues most salient to them. These descriptions are useful for informing the development of prevention and harm reduction interventions that address the concerns and meet the needs of users.

Purposive sampling was employed in the design stage as an appropriate method given the pre-selected criteria relevant to the research question (the investigation of the non-sporting use of PIEDs). Purposive sampling also enabled flexibility in sample size as data review and analysis could be carried out in conjunction with data collection. Reviewing data as was collected meant it was possible to determine if and when data saturation characteristics of the participants occurred and further recruitment became redundant.

All material and procedures were approved by the Research Ethics Committees at Flinders Medical Centre and the University of New South Wales.

2.1.1 Target Group - participants

The target group for this study was performance and image enhancing substance users. In total, 69 PIEDS users were recruited for this current study. Recruitment was conducted over a six month period from March 2006 to August 2006. Participants, who were recruited from five states in Australia, were required to meet the following selection criteria.

Target Group - selection criteria

Participants were volunteers who met the following selection criteria:

- Aged 16 years or over.
- Identified with one of the following target groups:
 - Adolescent male (16-25 years of age).
 - Member of the gay community (participants who identified as gay, lesbian, bisexual and transgender).
 - Occupational use (participants who worked in the security industry across all professions e.g. nightclub security, film security, shopping centre security, as well

as gym members, and bar and nightclub personnel. Also included people from other parts of the security industry (police, fire service, corrections, and army).

- Have used anabolic steroids or other related performance or image enhancing products within the past 12 months.

Target Group - exclusion criteria

Participation in this study required a thorough understanding of English and participants who did not have such an understanding were not recruited.

Target Group - recruitment strategy

Target group recruitment was undertaken by Streetwize and participants were targeted through advertisements in the Gay and Street press, business cards, flyers, posters and the use of community radio (for a detailed overview of recruitment strategies undertaken in each state see Appendix One). Previous studies and experience with recruitment of participants who use illicit substances highlighted a number of issues that may impede recruitment progress/success (Larance, Degenhardt, Dillon, & Copeland, 2005a). Given the research questions and the potential difficulties with recruitment of this 'hidden' population a purposive multi-faceted recruitment strategy was employed. Snowball sampling was also employed during the recruitment process to take advantage of referrals from the social networks of participants and thus address some of the known obstacles to recruiting this 'hidden' population.

Target Group - interviewers

The interviews with participants in the three target groups were conducted by five interviewers, one in each state (QLD; NSW; VIC; SA, and WA). All interviewers were provided with comprehensive training in interview techniques, the use of the interview schedule, all procedures and relevant ethical and safety protocols. Interviewer training was conducted at Streetwize in Sydney NSW and was provided by Project Staff from NDARC and Streetwize (Appendix Two provides a comprehensive summary of interviewer training).

2.1.2 Key Informant - participants

Key informants in this study were volunteers who met the following selection criteria:

Key Informants - selection criteria

For the purposes of this study key informants were considered to be people with a good knowledge of persons or groups of persons involved in the use of PIEDs such as:

- Employers.
- Industry associations.
- General medical practitioners.
- Treatment service providers.
- Peak bodies.
- Nightclub proprietors.
- Gym owners.
- Peak bodies.

Key Informants - exclusion criteria

Exclusion criteria for key informants were the same as for PIEDS users who were recruited to the study.

Key Informants - recruitment

Twenty four key informants were recruited from the five states included in the study and a total of 24 semi-structured interviews were conducted over a six month period, from April 2006 to September 2006. All interviews were conducted over the telephone, digitally recorded and later transcribed *verbatim*. Interviews varied in length, ranging from 15 minutes to one hour. All key informants reported their knowledge of PIEDs was obtained through the course of their work.

Key Informants - interviewer

All Key Informant interviews were conducted by DASSA PIEDs project officer.

2.2 Instruments

A semi-structured interview schedule was developed for interviews with participants in each of the three target groups (Appendix Three). A separate semi-structured interview schedule was developed for use with key informants (Appendix Four). Both interview schedules (users and KI) consisted of two sections. Section one of both interview schedules contained qualitative (semi-structured) questions that were informed by the literature review undertaken for the current study and by a previous study undertaken by NDARC (Larance et al., 2005a). Broadly, these interviews were designed to explore in detail:

- the physical, psychological and social risks and harms experienced by PIEDs users.
- factors influencing the use of PIEDs including motivations, body image issues, social status, occupational issues, and perceived positive benefits.
- views on information needs and preferences in format, content, and delivery.
- appropriate prevention and harm reduction messages and intervention strategies for each of the target groups.
- experiences with and barriers to treatment, and other experiences with health care services including access to PIEDs and PIEDs related information.

The interview questions that appear in the qualitative sections of the interview schedules provided a basic format for the kinds of questions asked during the interviews. The interviews were conducted in a flexible way in order to accommodate information offered by different participants. All interviews were recorded by the interviewer and later transcribed for qualitative analysis.

Section two of both interview schedules (users and KI) contained quantitative questions that focused on the collection of basic demographic characteristics. The questions in this section were also informed by the literature review (Larance et al., 2005b) and by questions asked in projects previously undertaken by NDARC (Larance et al., 2005a).

2.3 Data Analysis

2.3.1 Quantitative Data

Quantitative data were entered into an SPSS data file and were analysed using SPSS. State by state comparisons were not undertaken due to the small sample sizes.

2.3.2 Qualitative Data

Qualitative analyses was undertaken by NDARC. The software package NVIVO was used to conduct a thematic analysis of all the data. Sub themes were identified and described for each of the main research topics raised in the interview schedule: motivations for use and deterrents for use; perceived harms; risk reduction strategies; experiences of health services; and use and attitudes to information.

Despite meeting the selection criteria, eight interviews with participants, who identified as transgender, were excluded from the analysis, because they mainly used estrogens and other PIEDs for medical, rather than performance and image enhancing reasons.

SECTION 3 RESULTS

3.1 Demographic Characteristics of PIEDs Users

Due to study design, small sample sizes, and differences in sampling techniques, the majority of analyses were descriptive.

3.1.1 Participants

A total of 69 PIEDs users were interviewed for this research study. The interviews took place across five states in Australia between April and September 2006.

3.1.2 Age and gender across states

Participants ranged in age from 18 to 58 years (N = 67, mean 28.2, SD 8.2). Overall, males comprised the majority of participants (n=61, 88.4%). Table 1 below presents an overview of age and gender distribution across the states.

Table 1: Age and gender by state

		States					
		QLD* (n=14)	NSW (n=11)	VIC** (n=18)	SA (n=10)	WA (n=16)	Total (N= 69)
Age	Range	19-38	19-34	23-58	19-39	18-39	18-58
	Median	24.0	24.0	33.0	22.5	24.5	26.0
	Mean	26.4	24.6	35.1	25.1	26.7	28.2
	St Dev	5.8	5.1	10.3	6.1	6.6	8.2
Gender (n, %)	Males	13 (8.9)	11 (15.9)	11 (15.9)	10 (14.5)	16 (23.2)	61(88.4)
	Female	1 (1.4)	0	0	0	0	1 (1.4)
	Transgender	0	0	7 (10.1)	0	0	7 (10.1)

*Age, n=13 (1 participant did not answer)

**Age, n=17 (1 participant did not answer)

3.1.3 Language and culture

All participants spoke fluent English (essential selection criteria); with seven participants indicating they spoke a second language. In terms of cultural identity only three of the 69 participants identified as Aboriginal, but none as being of Torres Strait Islander origin.

3.1.4 Accommodation

The majority (n=50, 73.5%) of participants lived in rented accommodation, while 16 (23.2%) owned their own home, and two (2.9%) were of no fixed address.

3.1.5 Employment and occupation profile

In terms of overall employment status, a total of 56 (81.2%) participants identified as employed (either full-time, part-time/casual), ten (14.5%) identified as not employed and three (4.3%) identified as full-time students.

No consistent trend in occupational category was observed. However, several participants indicated they worked at more than one place (n=14, 23.7%). Occupational categories were examined and collapsed into groups of primary and secondary occupations. Table 2 below provides an overview of the kinds of work in which participants were engaged, a high proportion of which were related to 'the body' (e.g., sex workers, security workers, dancers, personal trainers, strippers, and body-builders).

Table 2: Occupation - PIEDs user

Primary Occupation n (%)		Secondary Occupation n (%)		Total N (100.0%)
Professional (i.e., telecommunications, engineer)	11 (15.9)	Night club dancer, body builder, body builder/wrestler, former professional sportsperson	4 (5.7)	15 (21.7)
Self-employed (personal trainer, personal trainer and stripper)	12 (17.3)			12 (17.3)
Security Industry (includes police, armed services)	7 (10.1)	Paramedic, labourer, tradesperson	3 (4.3)	10 (14.5)
Student	5 (7.2)	Hospital orderly, hospitality, personal trainer, sales, stripper, youth worker)	7 (10.1)	12 (17.4)
Manager	2 (2.9)			2 (2.9)
Sex Worker	4 (5.8)			4 (5.8)
Hospitality Industry	1 (1.5)			1 (1.5)
Labourer	1 (1.5)			1 (1.5)
Entertainment Industry (DJ, dancer)	2 (2.9)			2 (2.9)
Not employed	10 (14.5)			10 (14.5)
Total				69 (100.0)

3.2 Demographic Characteristics of Target Groups

3.2.1 Target groups - state

Table 3 below presents a breakdown of the three target groups across the five states. Overall, 23 (33.3%) of the 69 participants interviewed identified as members of the *Young Male* target group, 18 (26.1%) as members of the *Gay Community* target group and 28 (40.6%) as members of the *Occupational* target group.

Table 3: Target group by state

Target Groups	States (N=69)					Total N=69 (%)
	QLD n = 14	NSW n = 11	VIC n = 18	SA n = 10	WA n = 16	
Young male	4	5	2	5	7	23 (33.3)
Gay community	2	2	11	1	2	18 (26.1)
Occupational	8	4	5	4	7	28 (40.6)

Fifteen participants (21.1%) identified with more than one target group, the majority of whom were young males also identifying as occupational users. Table 4 below provides an overview of the overlap between target groups.

Table 4: Participants who identified with more than one target group

	Target Group			Total N = 69 (100%)
	Young male n = 23 (%)	Gay community n = 18 (%)	Occupational n = 28 (%)	
Single Target Group	23 (33.3)	17 (24.6)	14 (20.3)	54 (78.3)
Gay community	0	0	4 (5.8)	4 (5.8)
Young male	0	1 (1.5)	10 (14.5)	11 (15.9)

3.2.2 Target groups - sexual identity, gender and state

In the demographic section of the questionnaire separate questions were asked about gender (Q.1) and sexual identity (Q.9). When the results of these two questions were examined across the three target groups a fairly complex picture of gender, sexual identity and target group identity arose.

Table 5 below provides the breakdown of gender and sexual identity across the three target groups.

Table 5: Target group by sex of participant by sexual identity

Sexual Identity	Target Group	Gender			Total n (%)
		Male n (%)	Female n (%)	Transgender n (%)	
Heterosexual	Young male	22 (44.0)		0	22 (44.0)
	Gay community	0		5 (10.0)	5 (10.0)
	Occupational	23 (46.0)		0	23 (46.0)
	Total	45 (90.0)		5 (10.0)	50 (100.0)
Gay male	Young male	1 (9.1)			1 (9.1)
	Gay community	8 (72.7)			8 (72.7)
	Occupational	2 (18.2)			2 (18.2)
	Total	11 (100.0)			11 (100.0)
Bisexual	Gay community	2 (33.3)	1 (16.7)	1 (16.7)	4 (66.7)
	Occupational	2 (33.3)	0	0	2 (33.3)
	Total	4 (66.7)	1 (16.7)	1 (16.7)	6 (100.0)
Other	Gay community	0		1 (50.0)	1 (50.0)
	Occupational	1 (50.0)		0	1 (50.0)
	Total	1 (50.0)		1 (50.0)	2 (100.0)

3.2.3 Target Groups - Employment and Occupation

3.2.3.1 Young Male target group: employment and occupation (n = 23)

Twelve participants in the Young Male target group (52.2%) identified as employed (seven full-time, and five part-time/casual), two participants (8.7%) identified as 'other' (one as an entrepreneur and one as a full-time student casually employed), seven (30.4%) identified as full-time students (four of whom also worked part-time), and two participants (8.7%) identified as not employed. For those young males engaged in employment there was no consistent trend in occupational category. Occupations included professional, self-employed, hospitality industry and various other non-professional work.

3.2.3.2 Gay Community target group: employment and occupation (n = 18)

In terms of employment in the Gay Community target group, eight participants (44.4%) identified as employed, one (5.6%) as a full time student, and four (22.2%) as 'other' (sex workers) and five (27.8%) as not employed. With regard occupation, again there was no consistent trend evident. Although, compared to the young male group, more members of this group identified with occupations relating more directly to the 'body', such as sex work, dancing, and fashion.

3.2.3.3 Occupational target group: employment and occupation- (n = 28)

In the Occupational target group, 21 participants (75%) identified as employed (18 full-time, 3 part-time/casual), one (3.6%) identified as full-time student, three (10.7%) as not employed and three (10.7%) as 'other' (two full-time students also employed, and 1 participant worked full-time and had two casual jobs). More participants in the Occupational target group identified as managers or self-employed. There was a trend in this group towards professional occupations involving the body; these included personal trainers (3), body builders/wrestlers (2) and a football player (1). Not surprisingly, more members of this group were also engaged in both full-time and part-time/casual security work (including armed services, police).

3.2.4 Target groups - level of education

Table 6 below provides an overview of the level of education for each of the three target groups. There is an overall trend towards higher education with 59 (85.5%) participants having completed Secondary School Year 12 or higher. Of those completing year 12 and above 21 (30.4%) had obtained a university education, and 9 (13%) had completed trade/technical certificates. Only 10 (14.5%) participants had not completed Secondary School year 12.

Table 6: Level of education by target group

Level of education	Target Group			Total N (%)
	Young male n (%)	Gay community n (%)	Occupational n (%)	
Secondary school - year 9 or under	0	1 (1.5)	0	1 (1.5)
Secondary school - year 10	0	5 (7.2)	2 (2.9)	7 (10.1)
Secondary school - year 11	1 (1.5)	0	1 (1.5)	2 (3.0)
Secondary school - year 12	13 (18.8)	3 (4.3)	11 (15.9)	27 (39.0)
Trade/ technical certificate	3 (4.3)	1 (1.5)	5 (7.2)	9 (13.0)
University	6 (8.7)	7 (10.1)	8 (11.6)	21 (30.4)
Other	0	1 (1.5)	1 (1.5)	2 (3.0)
Total N (%)	23 (33.3)	18 (26.1)	28 (40.6)	69 (100.0)

3.2.5 Target Groups - relationships

More than half (n=41, 59.4%) of the total sample were currently in a relationship, either living together (29%) or in a relationship not living together (30.4%).

Table 7: Relationship status by target group

Relationship status	Target Group			Total N=69 (100%)
	Young male n=23 (%)	Gay community n=18 (%)	Occupational n=28 (%)	
In a relationship living together	3 (4.3)	6 (8.7)	11 (16.0)	20 (29.0)
In a relationship not living together	9 (13.0)	4 (5.8)	8 (11.6)	21 (30.4)
Not in a relationship	11 (16.0)	8 (11.6)	9 (13.0)	28 (40.6)

3.2.6 Target Groups - substances used and frequency/pattern of use

3.2.6.1 Age first used PIEDs

Overall, the mean age for first use of PIEDs was 22.4 years (SD 6.4 years), with a minimum of 14 years and a maximum of 57 years. Table 8 below provides an overview of the age of first use of PIEDs for each of the three target groups.

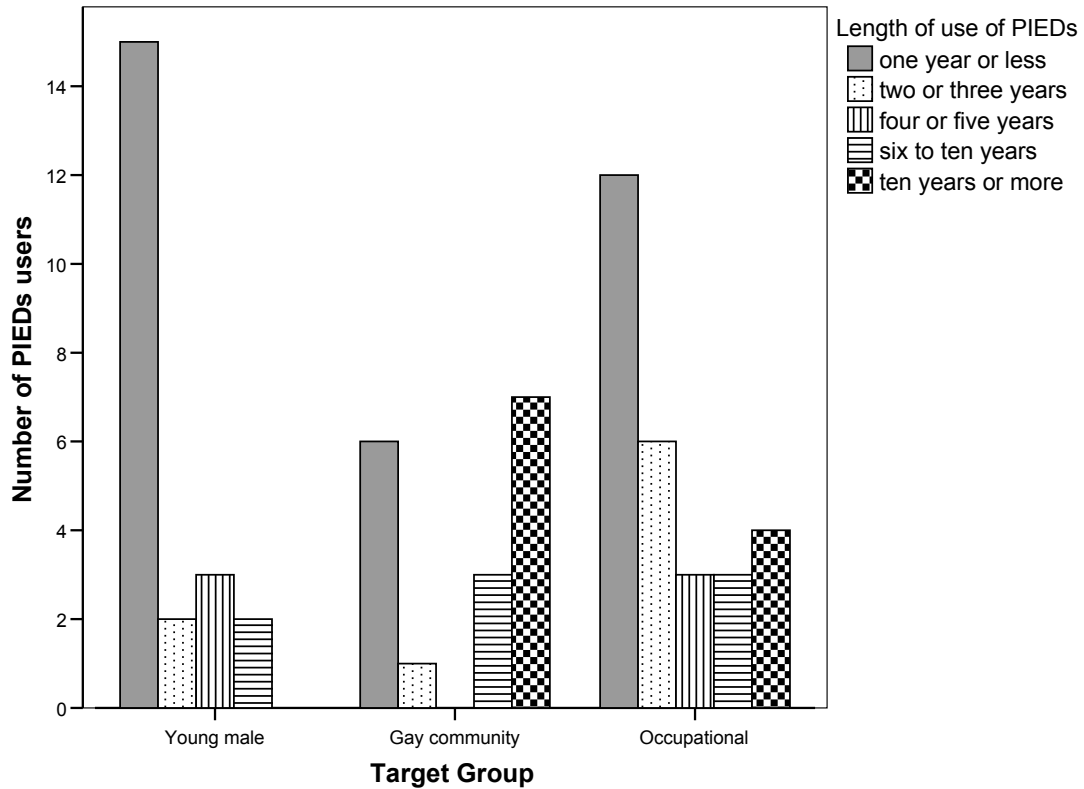
Table 8: Age of first PIEDs use - target groups

Age first used PIEDs (years)	Target Group			
	Young male n=23	Gay community n=18	Occupational n=28	Total N=69
Mean (SD)	20.0 (2.4)	25.0 (10.3)	22.7 (4.6)	22.4 (6.4)
Median	20.0	23.5	21.5	21.0
Range	16 - 25	14 - 57	17 - 33	14 - 57

3.2.6.2 Length of regular PIEDs use

Over the entire sample the mean length of regular use of PIEDs was 3 years and 7 months (SD 4.9), with a range of 5 months minimum and 23 years maximum. The median for length of use was 1 year 4 months. Figure 1 below provides an overview of the length of time participants had regularly used PIEDs for each target group.

Figure 1: Length of regular use of PIEDs (years) by target group



3.2.6.3 Type of performance and image enhancing substance used over past 12 months

More participants reported the use of human anabolic steroids (37.7%) than veterinary anabolic substances (14.5%) over the last 12 months. More than one in five (n=15, 21.7%) participants reported use of both human and veterinary substances, and 18 participants (26.1%) reported the use of 'other' substances (i.e., creatine, and clenbuterol).

Table 9 below shows that there was a trend towards the use of human anabolic steroids over other substances in both the Young Male and the Occupational target groups. The Occupational group reported approximately equal use of both veterinary anabolic steroids and 'other' substances. It is worth noting that the only 'other' substance used by members of the young male group was 'creatine', which was also used by the other target groups. In the Gay Community target group, the kinds of substances used were evenly distributed and the most commonly listed substances were creatine, clenbuterol, Deca-Durabolin® and stanazol.

Table 9: Target group by kinds of substances used

Kinds of substances used	Target Group (N=69)		
	Young Male n=23 (%)	Gay community n=18 (%)	Occupational n=28 (%)
Human anabolic steroids	12 (52.2)	4 (22.2)	10 (35.7)
Veterinary anabolic steroids	2 (8.7)	4 (22.2)	4 (14.3)
Both	4 (17.4)	2 (11.1)	9 (32.1)
Other	5 (21.7)	8 (44.4)	5 (17.9)

3.2.6.4 Injecting behaviour and substances injected in the past 12 months

Overall, 40 (58%) participants reported having injected PIEDs in the past 12 months. Table 10 below shows the injecting behaviour of participants in each target group. AAS were the most commonly injected PIEDs by all target groups (see Appendix Five for complete list of substances used). Chi square analysis revealed a statistically significant relationship between target group and injecting behaviour ($\chi^2 (2) = 6.6, p=0.037$), with participants in the gay community more likely to report injecting PIEDs over the past 12 months, compared to the other two groups.

Table 10: PIEDs injected in past twelve months by target group

	Target Group			Total N=69 (%)
	Young male n=23 (%)	Gay community n=18 (%)	Occupational n=28 (%)	
Injected PIEDs in past twelve months n (%)	12 (52.2)	15 (83.3)	13 (46.4)	40 (58.0)

3.2.6.5 Injected other drugs in past 12 months

Eighteen participants (44%) indicated that they had injected other substances within the past 12 months. Nine participants (three in each target group) reported having injected ATS, and one participant (Gay Community) reported the use of heroin. Only two participants indicated they had shared injection equipment (one gay community and one occupational).

3.3 Demographic Characteristics of Key Informants

3.3.1 Key informants - state and gender

A total of 24 key informants were interviewed for this study. Twenty three of the 24 key informants provided information regarding their gender, and of those 15 (62.5%) were male. Key informants ranged in age from 31 to 59 years (mean 42.3 years, SD = 7.4 years). There were no significant differences between the ages of male and female key informants ($t(21) = 0.90; p > 0.05$). Table 11 below provides an overview of the number and gender of key informants in each state.

Table 11: Key informants by state and gender

		State n (%)				
Gender		QLD 2 (8.3)	NSW 5 (20.8)	VIC 8 (33.3)	SA 7 (29.2)	WA 2 (8.3)
Male	15 (62.5)	1	4	5	4	1
Female	8 (33.3)	1	1	3	2	1

3.3.2 Key informants - language, culture and accommodation

Key informants identified English as the main language spoken at home (N=23). None identified as Aboriginal or Torres Strait Islander. In terms of accommodation, 11 (45.8%) participants lived in their own house or flat, and 12 (50.0%) lived in rented accommodation. One Key Informant decline to answer these questions.

3.3.3 Key informants - education profile

The majority (70.9%) of key informants who provided information on their level of education had completed Secondary School year 12 or higher and of those, ten (41.7%) had completed university (Table 12 below).

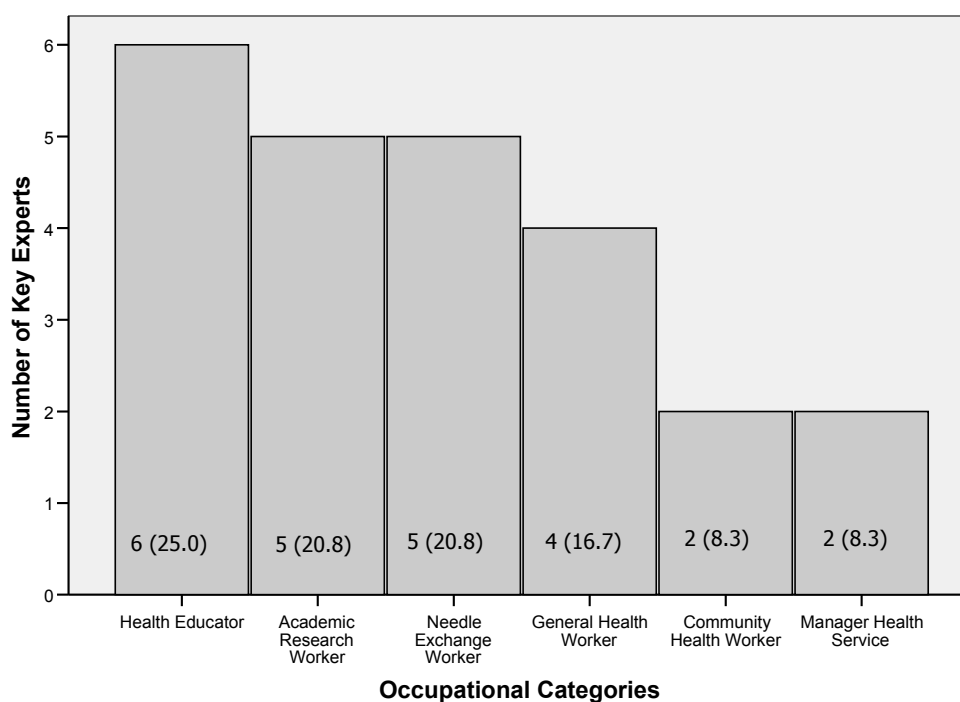
Table 12: Key informants highest level of education

Highest Level of Education n (%)					
Secondary school year 10 n (%)	Secondary school year 11 n (%)	Secondary school year 12 n (%)	Trade/ technical certificate (apprenticeship) n (%)	University n (%)	Total n (%)
2 (8.3)	4 (16.7)	4 (16.7)	3 (12.5)	10 (41.7)	23 (95.8)

3.3.4 Key informants - employment and occupation

All key informants were employed, 18 (78.3%) full-time, and five (21.7%) part-time or casual. Four key informants identified as *General Health* workers, and five as *Needle Exchange* workers, while the remaining 15 (62.5%) specified a variety of occupations (see Appendix Six for a complete list of KI occupations). Occupations specified by key informants were examined for similarity and collapsed into broad categories. Figure 2 below provides a summary of key informant's broad occupational categories (n, (%)).

Figure 2: Key informants by occupation



3.3.5 Key informants - populations with whom they worked.

Key informants had contact with a range of substance users during the course of their employment.

The majority indicated they worked with injecting drug users (87.5%), and young people (54.2%).

Table 13 below provides a complete list of populations with whom key informants had contact.

Table 13: Specific populations with whom key information worked

Population	n (%)
Injecting drug users	21 (87.5)
Young people	13 (54.2)
ATSI	8 (33.3)
Women	9 (37.5)
Gay community	9 (37.5)
Security industry	7 (29.2)
Prisoners	6 (25.0)
Sex Workers	2 (8.3)
Armed forces, construction, Police force	1 (4.2)
People with blood borne viruses	1 (4.2)
Police education	1 (4.2)
Transgender/transsexual	1 (4.2)
Young men	1 (4.2)

3.3.6 Key informants - number of contacts with PIEDs users in the past 12 months

Two key informants reported having zero contacts with PIEDs users (one declined to answer and, although the other had extensive experience with PIEDs users they had no personal contacts in the

past 12 months). These two key informants were excluded from the follow calculations. The remaining 22 key informants varied considerably in the number of PIEDs users with whom they reported having contact in the past 12 months and the overall number of people key informants had had contact with ranged from two to 1000, (median = 60.0).

Most key informants (81.8%) reported they occasionally had more than one contact with each PIEDs user. Four (18.2%) key informants reported they only ever had one contact with individual PIEDs users. Responses to multiple contacts were examined and collapsed into 3 categories. Table 14 below provides an overview of multiple contacts with PIED users over the past 12 months.

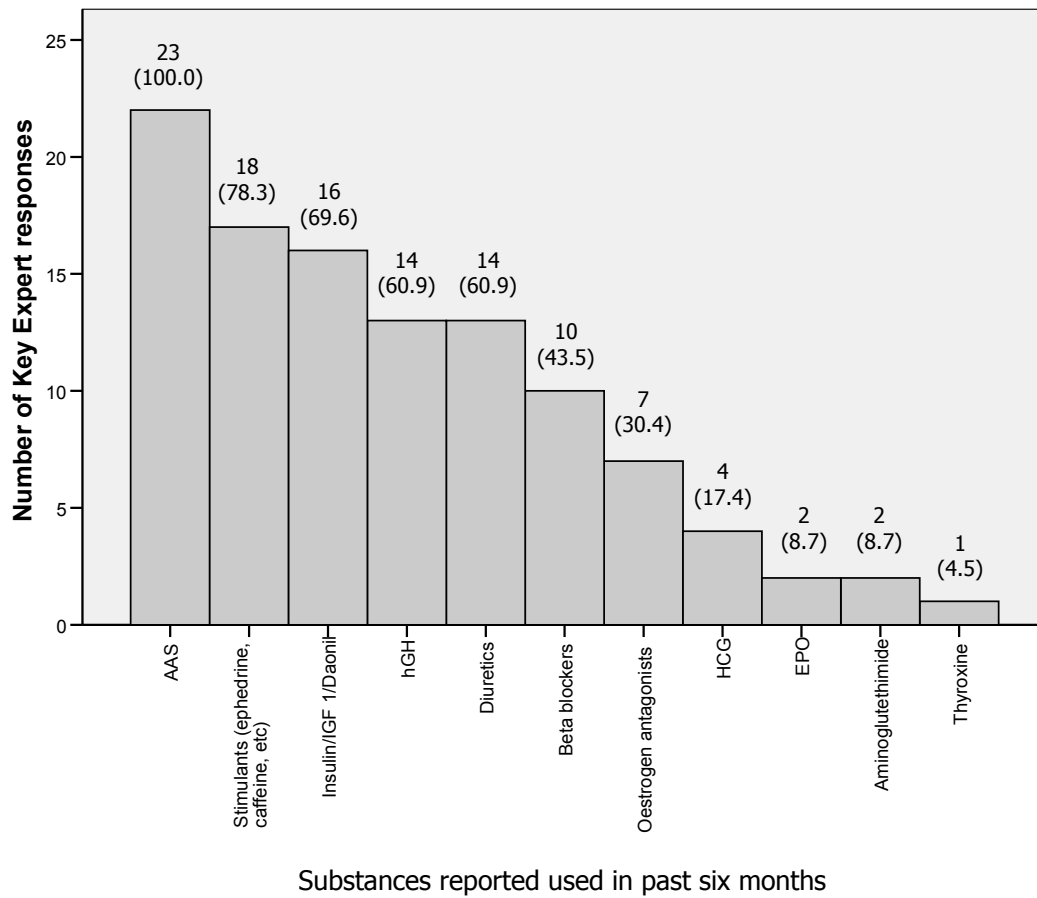
Table 14: Number of key informants who had multiple contacts with individual PIEDs users in past 12 months

Key Informant	N (%)
Multiple contacts with PIEDs users in past 12 months	
Most one contact, some 2-3 contacts	10 (45.5)
Most one contact, some 4-6 contacts	1 (4.5)
Most one contact, some 6 or more contacts	7 (31.8)

3.3.7 Key informants – PIEDs substances

Most key informants reported they were familiar with a number of PIEDs substances used by people to enhance image or performance (N=23). The most commonly identified substances were AAS, followed by stimulants, insulin and hGH and diuretics (see figure 3 below).

Figure 3: Substances reported used in the past 6 months



3.3.8 Key informants – routes of administration of PIEDs

Twenty (83.3%) key informants identified injecting as the most common route of administration of PIEDs, one (4.2%) identified oral, and three (12.5%) identified both injecting and oral.

SECTION 4 QUALITATIVE ANALYSES

INTRODUCTION

The analysis of data from the interviews with PIEDs users as well as key informants sought to identify core issues that were raised across all user groups and describe the range of opinions that existed amongst the study participants. The analysis of data also identified and reported themes that were only reported in one target group. When this occurs, the results section reports the target group in which the theme arose, for example “young men reported...”.

4.1 Motivations to use PIEDS

A range of motivations for PIEDs use were reported, with size, strength, muscle tone and a ‘good looking physique’ being reported as valued outcomes. These attributes were perceived to give PIEDs users associated social benefits, or advantages obtained in occupational and sporting fields.

4.1.1 Body image

‘Looking big’

Participants reported that they were motivated to use PIEDs because they wanted to look ‘bigger than normal’. Key informants reported that PIEDs users they came into contact with liked to walk into a place and ‘look huge’.

“I didn’t think I was big enough ... you don’t think you are big, you just think of getting bigger, and bigger and bigger. It is just like a disease yeah, you just want to always grow. You don’t really see yourself. Although, I was looking at pictures, you know, thinking that is a bit too much. You would sit in the car with friends and you wouldn’t fit in there because you would just be too wide. It doesn’t look attractive ... But, back then, it was all about the professional body builders and that is what I wanted as well.” (Young Man/Occupational User)

Some participants reported that they wanted to increase their size because of a ‘personal competitiveness’, e.g., between security guards who worked together, or body builders training at the gym. Competitiveness could occur between siblings, e.g., twin brothers. It could also occur between partners and friends, who felt that they needed to ‘keep up with each other’.

“I suppose I really wouldn’t be a personal trainer if it (body size) wasn’t important. To me it is very important, like I have always, always been competing with my twin brother, there is nothing more competitive than two competitive twin brothers. Looking exactly the same. Except I like to think that I am actually bigger than him. He’ll like to tell you that he is bigger than me.” (Young Man/Occupational User)

For some PIEDs users there was a limit to how big they wanted to get, and there was a body size that was ‘too big’. Feedback from others about being ‘too big’ could also influence goals about body size.

“I will consider if I want to use it again ... I have been using it for a few months and at the moment I have sort of decided that I’ll probably keep using it for a year ... The feedback I am sort of getting from people like a lot of my friends are saying you know “Oh you are pretty big now” and “Oh, but don’t get any bigger ... it might start looking a bit weird”.” (Young Man)

"I mean you can only get so big, without looking, you know, going into the realms of looking stupid. But you know I am only using it to get a bit of a boost up through a normal gym routine." (Young Man/Occupational User)

Idealised body images

Two idealised body images were described by participants – the 'body builder' (bulky and muscular) and the 'athlete'.

"Taking steroids has always helped me fulfill my goal to be a bulky muscular man, not the slim athletic type." (Gay Man)

Participants were influenced by images observed in body building magazines, body building competitions and the media and these images subsequently informed their personal body building goals.

Increasing lean body mass and reducing body fat

Participants reported that they used PIEDs because they assisted them in reducing body fat. Lean muscle mass was particularly important to men who engaged in professional body building, or whose idealised body image was informed by this culture. Professional body builders reported that they needed to use PIEDs to 'cut down' and broaden the muscles so as to achieve the 'muscle-hardness look' necessary for competition.

Other men reported that they used these substances to reduce body fat because they had previously been overweight, or because they wanted to lose fat before they got married. They wanted to look healthy and fit, rather than obese.

"More kind of getting rid of the slob, slobbiness, the sloppiness that I have put on in the last two years, by not working out and not eating properly ... I have just got flabby from being lazy and I know I am not going to train my balls off so." (Occupational User)

Being physically strong

Men were also attracted to experiencing physical strength. Some reported this gave them a sense of control, especially when weightlifting.

"It is not just body image it is about strength and control of your own body, I think you get a big high from really being able to feel that your body is very strong and know you can lift any weight ... to work out in the gym and to work out well, you feel like you are in control. It's a meditation state too, like you don't think about much but you really control the movement and getting the most out of your body, and that is you know a powerful sort of thing to want." (Young Man)

4.1.2 Social feedback and personal confidence

Some participants reported that they felt a lack of social confidence about their body image because of childhood experiences of being 'skinny' or 'weak', or overweight.

"I have always been big, large. When I was a kid growing up I was the typical fat kid that got teased all the time. So basically once I had gone through puberty and sort of grown in height and got my build I was always big, um, the image still wasn't good enough for me so, I decided to try it." (Young Man/Occupational User)

Some participants reported it was being teased and bullied about their body in the past that led them to believe it was now important for them to look their best. A few participants commented that they associated how they looked with being either a 'strong' or 'weak' person

"Men that do take it are the stronger, more powerful, more confident, usually more successful, more go get it, in life. If everyone could take them it would be more balanced and I guess that is why it's illegal, because if they made it legal the boys that didn't take it would be left behind they'd be weak breeders, weaker men, weaker strain." (Gay Man/Occupational User)

Key informants also expressed the belief that some PIEDs users took the substances to compensate for a range of insecurities, e.g., lack of height or being too skinny. They attributed these insecurities to significant incidents of victimization and bullying that PIEDs users had experienced when they were younger. They also attributed much of the increased confidence associated with PIEDs use to the attention that PIEDs users receive from those around them. One key informant also commented that 'high school kids with pimples and squeaky voices' felt it necessary to improve their physique so that they would become more attractive to females.

Participants also attributed the increased social confidence with body image to the attention that they received from those around them, and they reported that they much of the positive reinforcement they received came as a result of comments made about increases in their body size. This type of feedback increased their self confidence and made them feel better about themselves. Conversely, participants reported they were not happy when they received, what they perceived to be negative, feedback about weight loss.

Several participants talked about how people within a competitive gym culture or occupational setting would focus their talk on who was the biggest or strongest. Those who were considered not big enough often received negative comments from others, or were put down in some way. For example, one participant reported that he had been bullied at work because he did not fit the desirable body type within the construction industry, and that he chose to start using PIEDs to gain respect as a supervisor in the construction industry.

*"In my work people used to create nicknames. So the supervisors they called me straw...
I: What does that mean?
Straw
I: Oh, a straw
Straw, so in order to avoid this kind of nickname, I decided to use"
(Occupational User)*

It was also reported that whilst personal confidence can be built up by positive social feedback, it could also be undermined by problems with their partner or the stigma of doing something that is illegal.

Mood lifter

There were a number of participants who reported that they felt absolutely 'fantastic' when using PIEDs. Participants attributed this sense of well-being to the boost in confidence they received with their improved self image (i.e., they felt good when they looked good), and to an 'anti-depressant effect' of PIEDs.

"They are a really good anti depressant. They are a really good mood lifter like you feel shit hot. And especially when you start getting into the more expensive and specific stuff like (inaudible) HGH and stuff like that. It's not a bad way to live." (Young Man)

"Yeah, you start to feel a little bit stronger, your muscles get quite a lot harder on the particular drugs that I am using. You just get better, like a trumped up feeling when you are in the gym and you feel like at times, quite animalistic like a rrrrrr (Growl sound) type feeling -which is a good feeling for a guy to have." (Gay Man)

Some key informants reported that users experienced a heightened energy when they used PIEDs and this effect was attractive to them as it made them feel powerful.

"Some people found that that feeling of, I guess it was heightened energy which could come out as aggression too. It was part of the appeal of being on them ... it wasn't so much about being angry but about being powerful." (Key Informant)

A couple of participants reported that they felt 'kind of speedy and awake' after PIEDs use and likened the effect to the feeling they had experienced after using amphetamines.

One user reported that he felt more confident and socially comfortable after using PIEDs and attributed this to the positive effect that these drugs have on a passive and self-effacing temperament, which was not inclined to 'roid rage'.

Social status

Some users reported that the increase in body size that occurs with PIEDs use led to an increase in social status as they were able to attract people they wanted to get to know .

"You know you use it and it works and what happens is the people that you want to get to know start to know you because they see that you are using it. It sort of snow balled from there." (Gay Man)

It was also reported by some participants that within the clubbing scene, the body image associated with PIEDs use was associated with being 'glamorous'.

One person commented that the muscular body he had from using PIEDs has helped him to become more popular with the students that he was working with, resulting in more meaningful relationships.

"I'll go into a high school where, before they must have just seen me as like an overweight geek coming into the school to talk to them about some boring topic. Now, because I am a big muscley bloke, even all the popular dudes will come up straight away - hey, how are you going man, they'll really want to make friends with me and it's really easy to actually form meaningful relationships with the students ... Like the whole thing has actually helped in me helping other people which is really funny." (Young Man)

Dating

Young men frequently commented about how improved body image was important in their relationships with women, and that having a 'good' body played an important role in their ability to attract a girlfriend. One participant reported he began using PIEDs because his girlfriend liked muscular men.

PIEDs use to improve body image with the aim of finding a partner was not confined to heterosexual males:

"It doesn't so much relate to friends or work, it is certainly about snagging that ideal partner." (Gay Man)

4.1.3 Sports motivations

Although this study did not target elite athletes, PIEDs were used by some participants to give them a competitive edge in their sport of choice, particularly with regards to strength and endurance. They were also used to assist recovery time after intense activity and helped injuries heal more quickly. This was of particular concern within those sports where there was a greater likelihood of injuries. For example, one participant used PIEDs to build muscle bulk and protect himself from injuries in BMX bike riding.

"I race a BMX bike in the pro division and in recent years bulk up more for protection from injuries etc. Yeah I have had injuries, I don't like crashing, just trying to keep myself protected. The guys I ride with they've been training and they have bulked up." (Young Man/Occupational User)

PIEDs use or non-use also became a factor when the body type of the individual was not perceived as ideal for a chosen sport. For example, one participant of small stature believed that his body type was not adequate for participating in wrestling and began to use PIEDs to increase his body size. On the other hand, another PIEDs user reported that he ceased use after he realized he was becoming too heavy to play basketball effectively.

Professional sportsmen, or those who were members of sporting clubs, were sometimes initiated to PIEDs use through others in their sporting field. Several participants who were under contract to a particular sporting club reported that they had been subject to a three month trial of creatine whilst playing their sport and that they had no choice about this matter.

A key informant also commented that he thought media coverage of sporting heroes' use of PIEDs could unintentionally play a part in encouraging young people to use steroids to achieve their sporting goals.

"The media's there saying isn't this horrible, isn't this terrible, but the young person reading this thing goes 'oh my god look at all the sporting heroes that are using anabolics I want to be a sporting hero'. 'I'd better use anabolics too'." (Key Informant)

Body building competitions

PIEDs use was regarded as essential if you wished to compete in body building competitions, as it was believed all competitors used PIEDs of some description, even in natural competitions. Some participants specifically commenced PIEDs use because they wanted to compete in body building. They reported that their personal competition goals often determined their level of use.

"The part that is annoying is they do these natural body building comps, they are not natural, some are. But I know for a fact that they juice up and they take blockers ... You can either be one of two people. You can turn around and say no I am not on it and lie, or you can turn around and say, yeah

well I am on it and I am not going to bullshit to you. The thing is about it – how do you get as big as this if you are not on it.” (Occupational User)

“I think how much you want to use that is your individual choice but for me, I am using a minimum amount that enables me to be at the same level with my competitors. Of course there are people that make the sacrifice, use more than what I am using, use more times than what I am using and they of course they get better results, but they will be in a different category.” (Young Man/Occupational User)

“And the bottom line is you know I wouldn’t take anabolic steroids if I wasn’t in the competition.” (Young Man/Occupational User)

The gym environment

Participants reported that the gym environment can encourage PIEDs use. Watching other people getting fast results, or achieving goals you are personally unable to attain, was particularly frustrating for some participants. This frustration about not reaching goals was intensified when people felt competitive about their size, or embarrassed about not being as big as everyone else. The gym was considered a very competitive culture.

“When I first started personal training I was probably not as strong and as fit as others. I met some friends who have used it (PIEDs) before and I saw a huge difference. For once they started looking and performing and I thought well, I’ll try it out.” (Young Man/Occupational User)

“First I got into personal training because I loved health and fitness. I have always tried to keep myself in shape. How I got into the steroids was through my friends. I was pushing the weights, looking after myself diet wise, and wasn’t getting the same results as they were, so I asked them and they told me that they used certain supplements, steroids giving them that extra edge and that is how I got into it.” (Young Man/Occupational User)

“You go to the gym and you start going for about a couple of months and you see everyone else is bigger than you and you start getting really into it and after a while you get a bit obsessive about it. Really obsessive about it and you know you start, everything, you just want to be bigger than everyone else.” (Occupational User/Young Man)

Associating with people at the gym who use PIEDs gives potential users the opportunity to become aware of and access a range of PIEDs substances themselves. Some participants reported they received information on PIEDs when they asked others at the gym how they were achieving such fast results. Others reported that it was PIEDS users who had initiated discussions about PIEDS and encouraged them to start using.

Several key informants commented that PIEDs users are often ‘initiated’ into use by people at the gym, by being offered drugs and information on how to use them.

“A lot of people will start their steroid use through contacts through gyms, through sporting clubs, so they’re often initiated I guess, or inducted into intramuscular injections through somebody else. So they rely heavily on the knowledge of whoever this person is who has kind of introduced them to the world of steroids.” (Key Informant)

Training

PIEDs users reported that they used a range of substances because they aided them in achieving easier and faster gains at the gym compared to training alone. Participants also reported they had improved motivation which, because it gave them more control over the transformation of their body assisted them to train more effectively. The use of PIEDs also helped with recovery after weight

training or other strenuous exercise. One person also reported that he used PIEDs for a period after an operation when he was unable to continue training.

"It definitely made it easier to train and work ... I was using in a week back then what I use in half a day now, It just meant that I could recover quicker and I mean I definitely couldn't have doubled up training without it. I just couldn't have physically. My body wouldn't have been able to recover and I wouldn't have been able to grow. I just would have gone catabolic and just broken down." (Young Man)

One key informant reported that some users reported PIEDs use had become an integral part of their training that the use of PIEDs eventually became part of the bigger fundamental ritual of their life.

"There was a really strong sense that all of that training, all of that diet, even the sleeping patterns, the supplements that they had to use, this body of knowledge that they had to build, of which steroid use was a part of that, and the steroid use as well, all of that was it was like a job ... it was like a full time occupation. It was something that gave purpose and meaning to life and direction to life as well. So to actually be doing it was probably more important than any end outcome because there was never really any particular end point." (Key Informant)

Normalisation of PIEDs use

Participants reported that PIEDs use can easily become normalised within gym environments, particularly where its use is (generally) not regarded negatively. One key informant reported that associating with other PIEDs users helps normalise its use.

"Maybe not necessarily peer pressure but maybe it kind of normalises it for people - makes it not so scary. Sometimes we unknowingly observe what's happening to our peers and make assessments or re-evaluate the way that we think about something and whether it's dangerous ... by seeing that somebody you know is doing ok and is getting these great results it kind of makes people feel more comfortable about the idea of it ... when you know maybe a couple of years ago you thought that's a really bad thing." (Key Informant)

However, not all participants agreed and one participant reported that there could be a range of opinions on the use of PIEDs in the gym context.

"You've got some fence sitters who really don't, care either way, they know that you are talking them and they just have a giggle. Then you have got your naturalists who are really against it, then you have got your other mates who take them, you know go on the same cycles as you ... then you have got the majority of people don't really care." (Young Man/Occupational User)

4.1.4 Occupational motivations

Occupational related motivations were reported in a range of industries, including prison officers, policemen; personal trainers; bike couriers; manual labourers; models; strippers, and personnel the security industry (bouncers (e.g., hotel industry), and the fashion industry.

Participants acknowledged that occupational motives should not be viewed in isolation and needed to be seen as part of a range of personal motivations, e.g., the user's desire to go out on a Saturday night and look their best.

Security industry

Participants reported that the nature of the industry encourages the use of PIEDs. Users from within the security industry reported that many people in their industry were involved in weight training and that they experienced peer pressure to be more muscular and have greater size.

"The security industry, especially the clubs that I have worked in ... they are all big boys and they are all body builders and all guys that train, not necessarily body builders but guys that train and yeah its just full of it (PIEDs use), absolutely full of it." (Occupational User)

"I have been working in security since 22 years old and, the last five years, everyone is bigger and I wanted to be bigger, bigger. And I had ... telling me to put on weight and I wanted to be bigger, not massive but just bigger." (Occupational User)

There was a belief that members of the security industry needed to be a certain size for people to be aware of their strength. The extra size also gave them a 'stand-over effect', which helped them to gain respect and, as a result, reduced the extent to which patrons talked back and disagreed with them.

"It's just the look you know, if people see me at 71 kilos they think that I am nothing and they can walk all over me, but if they see me at 95 kilos completely different story you know, no one will talk back to you at that weight." (Occupational User)

From a psychological perspective, participants in the security industry reported that increased physical size and strength gave them more confidence in dealing with difficult situations, and as a consequence they were less worried about being physically attacked. They also reported that while physical strength helped deal with physically aggressive people without being injured it also them to stop fights more effectively.

"Being a security guard there is a lot of emphasis on being physically strong because you have to carry people out of clubs, stop people fighting and what have you ... So you know it helps to be a bigger stronger guy. I find that using steroids helps me to become bigger and stronger faster. (Occupational User)

Although there were many comments made that PIEDs use enabled security staff to do their job adequately, others believed that it was not a necessity.. One person reported he used PIEDs to improve his physique but he did not believe PIEDs necessarily enhanced his job performance. He believed that decision-making and communication skills were more important.

"I mean there are thousands of security guards that don't use them and do quite well and making a living and stuff, it is not necessary, definitely not necessary." (Occupational User)

One key informant expressed the opinion that PIEDs use in the security industry can be a problem if the person relies solely on their strength to carry out their job, rather than a range of other non-physical interventions, e.g., talk-down strategies.

Nightclub dancers, strippers and nude models

The strippers and models who took part in this study reported that they used PIEDs to help maintain a good physique, which they believed was imperative for their work. One person also reported that PIEDs use was also helpful for the physicality of dance modeling at nightclubs.

Personal trainers and gym workers

Personal trainers reported that a muscular body was necessary to work successfully in the gym industry.

“Basically in my industry it is a very competitive industry, so for one if you are looking bigger and you look good, that probably being on the steroids just gives you the upper hand.” (Occupational User)

A bulky body image was also seen as advantageous for selling gym memberships and helped compete successfully for potential clients.

“A year ago I worked at a gym ... I didn’t have to be ripped or incredibly bulky, but to be able to sell memberships you don’t want to be overweight or you want to look a bit more toned – someone who actually practices what they preach. So at that time it was important, not so much now because I work at a call centre.” (Young Man)

Personal trainers also commented that if the gym managers discovered their use of PIEDs there would be a good chance that they would lose their job. Others reported that the employers would be far more concerned about the possibility of personal trainers distributing PIEDs to gym members.

Labouring work

One man reported that he had a shoulder injury that was not healing and this was making it difficult for him to carry out his work duties. He reported he used PIEDs to help him recover more quickly from his injuries. Another participant, who was a labourer, reported he used PIEDS to avoid being teased about his body size at work.

Army

Another participant reported that he made the decision to commence PIEDs use whilst in the Australian Army. His decision came about because he was experiencing difficulties in meeting the requirements of the physical tests he needed to pass to remain at a high level in his unit. This desire to perform better was accentuated by the value that he placed on his army career. He believed that PIEDs enabled him to be stronger and run faster.

“When I first started I was in the Army ... basically my whole life was the Army so, I felt like to needed to be better than I was, than I was performing. So that is when I turned to steroids.” (Young Man/Occupational User)

4.2 Mediating factors affecting PIEDs use

Drug testing

Random drug testing within their occupation or sport was identified as a deterrent by some participants. These participants identified a range of repercussions or penalties that could be imposed as a result of being caught. These penalties including losing their job, or ruining their sporting career.

Others reported that drug testing was a negligible risk because testing occurred so rarely within their occupation or sport. For example, one person reported that drug testing would only be a deterrent if he played at the elite level within his sport.

Injecting

Injectibles were not used by all participants. Some felt an aversion to 'sticking a needle' into themselves while others wished to avoid the risk of injection-related infections, e.g. blood-borne viruses, abscesses, etc.

"That is probably why and because, as I said, I don't, it's not a good feeling to be injecting all the time. I mean you actually feel like a junkie. You feel like an addict, which you are not, I mean ... You are not, addicted as such, but you know." (Young Man/Occupational User)

Cost and expense

The affordability and accessibility of PIEDs were reported as mediating factors in whether or not participants would use the substances. Participants acknowledged that despite the perceived benefits, expense could be a very real deterrent and would be prohibitive for some people. However, those who earned 'big money' did not find this a consideration when using PIEDs.

In some cases the expense determined the types of PIEDs that were used. For example, one person said that legally available products such as creatine were cheaper than other PIEDs, and had no side effects, so they were preferred. Others commented that PIEDs products prescribed by a doctor were 10 times as costly, and that injectibles were more expensive.

Young men reported making financial sacrifices, e.g., not buying a car, in order to buy PIEDs. Cost also appeared to be an added incentive for PIEDs users to not 'overdo' the amount they use.

Those who played sport professionally reported that the cost of PIEDs use could prove to be a worthwhile investment for some as it could result in improvements in performance and a subsequent increase in income.

"I mix with sports people who figure the eight hundred bucks they spent on steroids the first year was the best investment they ever made. It increased their income by forty grand. You know that's a good return on an investment." (Occupational User/Young Man)

Secrecy and personal relationships

Secrecy regarding PIEDs use could affect close relationships, e.g., parents, partners and friends.

"The actual action of injecting anabolic steroids into your butt is quite a confronting thing for a non user – to see – so there is a kind of secrecy behind that ... I know some of my friends that hide their steroid use from girlfriends and parents and other close friends. Secrecy is also something which affects their relationships with their close friends, I guess." (Young Man/Occupational User)

Some users feared their family and friends would discover their PIEDs use, while others reported that they did not care what other people thought.

"If I was to get caught, there is probably a good chance of losing my job, but also my friends and family who don't know about me, probably thinking that I am a cheat and that sort of thing." (Young Man/Occupational User)

"Most of my friends from the industry, because they were all kind of doing it any way, I don't give two shits what people think. I do what I want and if they don't like it they can stick it up their arse pretty much. Really, my friends know that." (Occupational User)

Parental attitudes

Some young men reported that they hid their PIEDs use from their parents. They believed that their parents would look down on them if they discovered their use and one user had received warnings about the health risks associated with PIEDs use from his father. Another young male participant reported that his parents had insisted that if he continued to use he must have his use monitored by a GP. Others reported that their parents were aware of their PIEDs use and had not been happy about it. However, the situation had been resolved by them moving out of home, or because their parents had simply 'got over it'.

Support and opposition from partners

A partner's attitude to PIEDs use appeared to influence participants' decision to use or continue to use. While some partners of PIEDs users were reported as being opposed to their use, others were regarded as being supportive.

"I have other considerations in my life now. I have a partner who is concerned that I don't want to be dropping dead in my 40s and I would rather have her respect than have it ruined by doing something."(Occupational User)

"Well, she is very non-judgmental so she doesn't really care, but I mean she doesn't want to see it, she doesn't want to see me with needles or anything. She just said as long as you know what you are doing, you are taking care of yourself, she says you are an adult you have got to make your own choices." (Young Man/Occupational User)

In some cases, participants had been introduced to PIEDs use by a partner or strongly encouraged to commence use by their partner who preferred a more muscular physique. One young man reported that his girlfriend liked muscular men and that this had encouraged him to commence use.

4.3 Reasons for ceasing PIEDs use

Some participants, particularly those who had only recently begun to use PIEDs reported that they would not think of stopping. Some participants indicated they had ceased using PIEDs and did not intend to use again.

Reported reasons for a decision to cease use

This group had become concerned about short term and long term health harms associated with its use. They had begun to experience mild symptoms or had been informed about a range of potential health risks of which they had previously been unaware. One participant reported that he had ceased use due to his personal circumstances changing; he had married and settled down, and the club scene that he had been involved with had changed and was no longer attractive to him. Another participant reported that he was not getting the results from the training that he wanted and did not believe the benefits were worth the financial cost. One creatine user reported that he

stopped using this product because he experienced side effects that he had been previously been unaware of.

Reported reasons for thinking about stopping in the future

Some regular PIEDs users reported there were a number of circumstances in which they would be willing to cease use. The following reasons were given for contemplating stopping in the future:

Personal experience of health harms

Some participants, and in particular young men, reported that they would consider stopping PIEDs use if noticed or experienced health harms.

Some participants reported that they would cease use if they experienced side effects such as the development of breasts, hair loss, or shrunken testes. Others reported that they would stop if they experienced health problems that they considered serious, e.g., abscesses or nerve damage that affected the muscles, or kidney, liver or heart problems that resulted in severe long term consequences.

Whilst some young men reported that they would stop as soon as they noticed kidney, liver or heart problems, others suggested that they would see a general practitioner and 'get checked out'. One man reported that he would only consider stopping if his heart problems (arrhythmia) persisted.

One participant reported that he had wanted to stop using creatine because it had made him feel ill or nauseous every morning.

Becoming aggressive

Another potential reason for ceasing use was if PIEDs use caused them to become aggressive or paranoid. These problems were linked to a resulting loss of social skills. One person reported that this would cause him to cease use particularly if it resulted in him hurting close friends and family.

Stopped training

Some participants reported that they would stop training when they reached a certain age, but one man reported that he intended to train long into his old age. Some participants said that they had decided to stop using PIEDs because they had lost interest in body building and it was no longer a priority in their lives.

Users reported that they would not continue to use PIEDs if something happened to prevent them from being able to train to a satisfactory level. Circumstances that may prevent training adequately may include an injury or an illness, or a lifestyle change which resulted in one becoming too busy to train. One person expressed the attitude that it would be a waste of money to use PIEDs if he could not train to an optimum level.

Achievement of training or competition goals

Some participants believed that they would consider ceasing PIEDs use once training or body building goals had been achieved, and once they reached their desired goal they would be able to maintain their level of fitness and body size without further PIEDs use. Some of the young men in the sample reported that they would be content to achieve the goals they had set themselves, although others disagreed with this assessment and acknowledged that they would probably keep using PIEDs.

"I think you kind of look at it and go well, it's not going to happen to me. I am only going to use it for a short period of time and it's going to help me just to get to the point in training I want to get to. And then once I get to that point I'll stop using it and I'll just continue training – whereas you don't really do that." (Young Man)

One user reported that he would cease using PIEDs after he had finished competing as a body builder and achieved his personal goals in that arena.

"I don't want to live on steroids for the rest of my life, it is something that you do for maybe 5 or 6 years and then move on with your life. You look back and say, look you have done it and you are alright now and yeah you have achieved what you always wanted. And the bottom line is you know I wouldn't take anabolic steroids if I wasn't in the competition." (Young Man/Occupational User)

Cost and availability of steroids

Several users reported that the expense of PIEDs may become a reason for them to cease use at some point, particularly if supply and demand issues on the black market meant that they became too expensive or difficult to come by.

Occupational reasons

One user questioned whether he would continue to use PIEDs if he lost his security job. Several occupational users commented that they were not monitored for their PIEDs use at work, so there was no motivation for them to cease use.

Sex life and fertility

A few young men reported that they would think about ceasing PIEDs use if it impacted on their sex life and sexual potency or fertility. The potential loss of fertility was a major concern for young men who wanted to have children someday. A few young men reported that they would stop using if their testes shrunk because they believed this could jeopardise their ability to have children in the future.

Settling down

Young men's concern about potential infertility brought about by use of PIEDs led them to comment that they wanted to cease use well before they attempted to start having a family. They also reported that PIEDs use was incompatible with family life in the long term because of the costs involved in raising a family and the potential risk that having PIEDs products around the house presented to young children.

Key informants also commented that PIEDs use was not seen as compatible with settling down and having a family - "It stops with the ring".

"Long term, it's hard to say, it's a day to day thing, year to year. Obviously the cost of it is also an effect. Once I am married and have kids I have other priorities, so obviously I am not going to use for the rest of my life ... I will use them as long as I can afford to use them and as long as I believe I would like to use them for. But as soon as there are kids or a mortgage or things come along, it becomes financial ... it doesn't bother me, having to cut them out of my life." (Young Man/Occupational User)

"I think I want to start a family and stuff, and I don't want to have those sort of products around my house at all, or even anywhere sort in my life when I start to have kids. That's the major risk for me, yes having something like that, or having Creatine somewhere and one of my kids getting it, that would be the scariest thing." (Young Man/Occupational User)

Relationships with partners

There were reports by a few young men that they believed that they did not need to use PIEDs to enhance their body image as much once they were married, as they no longer felt that they had to impress anyone and at that point they felt good about themselves.

Participants reported that they would stop for the sake of their partner, or if it was causing a problem in their relationship, e.g., constant bickering or aggression. One young man said that he would cease use when he started living with someone, because it would then become much more difficult to hide his PIEDs use.

Gay partnerships

Several gay men reported that they would stop using PIEDs if it resulted in problems with their partner, e.g., constant bickering because they were in an aggressive mood, if the partner did not like needles, or if their partner threatened to leave if they did not stop. One user who was hiding his PIEDs use from his partner reported that he would stop if his partner found out. Another gay man reported that using PIEDs had encouraged him to be obsessed with his body image and that this could affect his relationship with his partner and others around him.

Negative views about injecting

Several users reported that they did not enjoy injecting themselves. They reported disliking sticking needles into their own body, hated the pain, and associated injecting with heroin or other drug use, and 'feeling dirty'. Participants believed that this dislike of injecting could result in them ceasing use in the future.

"I don't enjoy injecting myself at all. Every single one I have I hate, I hate it, that in itself tells me that it is coming to an end, because once upon a time, when I was a young fellow the injections didn't worry me on bit. Now I dread every time I have to do it." (Occupational User)

"I just find it grubby. The pain affects me more than what it used to. I just hate shoving needles into myself really, like before it didn't worry me, but now, every time I do it I just hate it. I don't enjoy it at all." (Occupational User)

4.4 Perceived difficulties in ceasing use

Whilst some participants reported factors that they thought would make it difficult to cease use of PIEDS, others did not think it would be difficult to cease PIEDs use. They reported that they regularly stopped using at the end of each of their cycles and did not find this particularly problematic, so to stop completely would be no different. Factors that participants reported could make it difficult to stop PIEDS use are reported below.

Losing gains that have been achieved

Users reported that any difficulty in ceasing PIEDs use could be due to the potential losses in size and strength that were gained whilst they were using. There would also be the loss of the perceived associated benefits of PIEDs use, e.g., feeling confident, looking good, positive social feedback and occupational and sports advantages. The loss of these gains was seen as particularly critical if the user had invested a lot of time, energy and finances to achieve them.

"I don't think I would feel bad if I lost the gains or something like that. I don't think I'd be as annoyed as some people I know, because some people I know ,they spent years training, and ,and if they stopped straight away they would lose a lot of their work. For me, I haven't dedicated myself that far – so I think I would be okay stopping and would ,not have any bad thoughts about it or anything like that." (Young Man/Occupational User)

Participants reported that they wanted to maintain the level of fitness they had achieved, and that they did not want to lose shape and go back to what they were before, i.e., having 'soft', 'weak' or 'old man' muscles. One person also feared putting on weight and returning to old eating habits. Another commented that it is psychologically difficult to lose the size you once had.

"You lose size and shape and it just makes you wonder why you did it all in the first place. So then you go to use again." (Young Man/Occupational User)

Also, the loss of occupational advantages could result in loss of income. For example, a personal trainer reported that he feared losing size as it could result in a loss of credibility by his customers, and a model reported that it would affect his ability to secure jobs.

"I stopped for a period in the past and I noticed quite a bit of difference. In my mind that made me think okay, if I can notice so much difference, definitely my clients are going to notice a difference. If they think that my body is slipping then you know they are going to think twice about staying with me as a client." (Young Man/Occupational User)

Being 'addicted' to getting bigger

Participants believed that it is particularly difficult to stop using PIEDs if the user felt compelled to always be bigger in a competitive or addictive sense.

"It is very addictive. You know the more you gain, the more you want to gain. The better you look, the better you want to look." (Occupational User)

Training regimes

Some users reported that they would find it difficult to cease PIEDs use because of the resulting negative impact on their training regime. Several participants believed they would either not get the same results from training, or would have to work and train a lot harder to get to the same level.

One person reported that he had found it difficult to stop because whenever he ceases use of PIEDs, he loses the motivation to train altogether.

"I know from my past experience that ...when I was on steroids for a while and I went off them I lost the motivation to train. At the same time not only did I lose what I had achieved on them, I lost even more, because I stopped training all together. So, there is always that worry that when you go off, when you are in the off part of the cycle it is really easy to lose that motivation." (Gay Man)

Another person reported that the peer pressure associated with training and using PIEDs with a friend could make it difficult for him to stop.

"I would have to say once you are in it and you are doing it with a friend, I would have to say peer pressure." (Young Man)

Living with the consequences of using PIEDs

The long-term consequences of PIEDs use was also identified as a factor that prevented users stopping. For example, some participants reported that they would find it difficult to stop because of the fear of the possibility of living with testosterone imbalance or unsightly breast tissue ('man boobs').

Sporting contracts

Another participant said that he was not allowed to stop when he wanted to as creatine use was mandatory under his player contract with a sporting club.

4.5 PERCEIVED HARMS OF PIEDS

'Roid rage'

Attitudes to risk of 'roid rage'

Users in this study had different opinions about how common 'roid rage' was amongst PIEDs users. A few participants reported that they believed that 'roid rage', as portrayed in the media, was a myth, or at the very least, rare, and that they had no personal experience of it themselves. In some cases, users commented that they thought incidents of aggression could be attributed to other factors such as personality.

"You have heard of how people become aggressive ...or they become really bad people because they are on anabolic steroids ... once they have seen me it's a different story because it doesn't matter if I am on or off the cycle I am still the same person. There are a lot of myths out there on anabolic steroids. I mean I have not experienced anything bad happening to me yet." (Young Man/Occupational User)

"They'll bring out horror stories, like you'll see current affair shows ... with horror stories of steroid users getting out of their car and they have got 'roid rage' and bashing people up. It is just like other things ... they don't portray what normally happens with steroid use." (Young Man/Occupational User)

However, others commented that they thought PIEDs related aggression was a real risk, because they had seen it amongst users they knew at the gym or within their friendship group.

"I have certainly seen that on a number of guys in the gym. In fact I have seen guys become really aggressive sometimes over equipment and so forth, and you look and think - Oh, I think they should

cut down a bit. It's actually pretty obvious what is going on, but I don't really class myself in that category." (Young Man)

'Roid rage' was believed by some to only affect particular people, i.e., 'some people can do it and some can't', or that it was more likely to occur in some personality types, particularly those who are prone to aggression and anger.

A few commented that you were more likely to experience 'roid rage' if you used high doses of PIEDs or if you used injectibles.

Some participants reported that the possibility of experiencing 'roid rage' was of concern to them as they had seen it occur amongst their friendship group. Users were also concerned about the harm that aggression or 'roid rage' could cause on their relationships, particularly the loss of a partner. One person commented that he was concerned he could lose his job working with young people if he lost his temper.

Key informants also reported that they had seen or heard of 'explosions of anger' amongst PIEDs users. One key informant commented that the risk of aggression is greatly increased if the PIEDs user is also using amphetamines. Another made the point of observing 'extremes' of emotion that were of concern.

"I worked with a couple of guys in particular and they didn't seem to have any control of their emotions, like if they got angry they got incredibly angry or if they were happy they were very, very happy. There didn't seem to be any middle ground." (Key Informant)

Experiences in change of mood

Participants described a range of mood changes. Some users reported these mood changes matched their cycle of PIEDs use. For example, one user reported that he was on a short fuse in the middle of the cycle, and could experience depression after the cycle was completed. One person noted that sleep deprivation was also a risk as PIEDs users can get too 'pumped' during their cycle of use.

Impact of mood swings on social relationships

PIEDs use and the subsequent changes in mood were reported as having the potential to affect the way in which users interact with others. There were a range of beliefs expressed as to exactly how relationships could be affected.

Some reported that it simply made them more socially confident. One person described this as a general feeling of superiority which often expressed itself as a lack of patience or irritation with other people.

"I actually personally don't feel the difference when I take steroids – I just feel more confident and I kind of get to the point where I don't have time for peoples' crap. I just get to the point where I just have to, I have got a short kind of attention span or something when I am on steroids." (Young Man)

"I can tend to be passive and self effacing. The effects of steroids on my temperament make me less inclined to be so and I am more inclined to be assertive. Other people might have a roid rage and jump out of a car and have a go at someone with a crow bar, whereas me, I am more confident, comfortable than I otherwise would be." (Gay Man)

Others reported that they became 'agitated', 'snappy' or had 'a short fuse'. However, they clearly distinguished these emotions from behaviours that could result in harm to others, such as becoming physically violent. One person commented that some incidents made him 'really, really upset' when he was using PIEDs and that the most trivial things in life seemed to affect him.

"For me personally it could be just some guy at the lights, someone beeping their horn, or getting served the wrong entrée you know. That would just make me, not get up and demolish the bloke, but would make me really, really upset. So it's the trivial things in life that affect me. You know, just things that you shouldn't worry about at all." (Occupational User)

"I don't get aggressive, I get agitated. Mood swings, not violent or anything, not your typical 'roid rage' as they call it. But you definitely get aggressive, I mean, sorry, agitated, not aggressive." (Young Man/Occupational User)

Some users reported that their 'moodiness' caused bickering in their relationship with colleagues, close friends and partners. A couple of users reported that they became more stubborn and intolerant when they were using PIEDs, and did not share as much with those around them.

Others reported that they struggled with feelings of anger when they were using. These feelings were out of character with their personality, and at times they had experienced difficulty managing their anger and could become verbally aggressive or angry, yelling at people.

4.5.1 Physical harms

Vital organs

There was concern among the participants in relation to the potential damage to vital organs caused by PIEDs use. In some cases, users simply expressed a generic concern about organ damage.

Kidney and liver

Many participants expressed a specific concern about damage to the kidneys, or to the kidney and liver. In addition, a couple of users raised concerns about fluid retention (associated with kidney function), liver cancer, and reduced EPO production.

However, there were a range of opinions about the quality of the evidence supporting the potential impact of PIEDs use on vital organs. While some participants believed that there was no evidence to support kidney and liver damage, others commented that there was no question that the use of PIEDs had a range of negative effects on a number of internal organs.

Many users viewed the potential damage to kidneys and the liver as the most salient risk for PIEDs use because this had the capacity to reduce life expectancy and significantly impact on their health and quality of life. Concerns about kidney or liver failure were highlighted when participants had had friends who had used PIEDs who had subsequently been admitted to hospital and/or died.

Kidney damage was regarded as a real potential risk as some users saw the kidneys as a filter for the body, filtering everything that is absorbed into the body, including PIEDs, and some users commented that they did not want to live with the problems associated with long-term kidney damage, e.g., being on dialysis. A couple of users raised similar concerns about capacity of the liver to break down PIEDs.

However, not everyone believed that they were susceptible to the risk of kidney or liver disease and many users reported that PIEDs use would only affect their kidneys or liver if PIEDs were used for a long periods of time or in excessively large doses.

Some people did not feel concerned about their personal risk of kidney or liver damage as they had had kidney and liver function tests and reported that the results had not indicated any problems.

However, several users reported an increased concern about potential kidney damage as they had observed changes to their urine, e.g., dark colour, frothiness or sediment. One person reported that his concern about the impact on kidneys was highlighted because he had formerly used amphetamines and as a result was concerned about any changes to his urine. PIEDS users who used creatine regarded kidney damage as the major health risk that they faced.

Heart

There was concern expressed among the participants about potential damage to the heart. Some users reported that PIEDs use could cause damage to the heart by affecting its pumping functions and resulting in heart murmurs and palpitations, or cardiomyopathy. One person also commented that since the heart is a muscle, it may grow as well.

Some of those who reported concern about the heart believed it to be a salient risk because of its impact on life expectancy. Some participants reported that they knew of PIEDs users, including well-known wrestlers or people who they had grown up with, who had had heart attacks and died in their late 30s.

Other participants were not worried about the impact of PIEDs on their heart and they were not currently experiencing any negative side effects in that area themselves. However, one user who was experiencing heart problems, i.e., heart murmurs and palpitations, did not think these symptoms were serious enough for him to cease use because his body image was more important to him. He reported that he would only stop using if his heart continued to play up.

Breast development

Many users expressed their concern about the possibility of developing breasts or 'bitch tits'. This concern was particularly prevalent among those people whose main goal in using PIEDs was to enhance their body image. Some users reported that they had seen 'man boobs' develop in their friends and had thought them to be quite 'disgusting'.

*"It would be pretty sad if you worked out that hard and you really regard your body as wanting to look the best you can and you suddenly start to see other changes like bitch tits ... I mean if you see people like that it is pretty sad."
(Young Man)*

*"Before his pecs were always really well defined, and then after doing some cycles he never ...got that definition back. He literally started getting like man boobs. Really quite disgusting so, that was a bit scary."
(Young Man/Occupational User)*

Some users said that they would stop using PIEDs if they started to develop man boobs.

*"I mean it is not natural to have breast, as a guy, so if you got them, well I think that is a pretty good indication that you have probably gone too far."
(Young Man)*

Others reported they were not concerned about the possibility of developing breasts because they believed the problem could be dealt with through surgery to remove the breast tissue, or by counteracting the effect with an anti-estrogen. One person commented, however, that the medication that others had used did not always work, and that there was the possibility that it could not counteract the effect.

Breast development was the main risk identified by some participants and in some cases the only risk that concerned them. Other users did not think they were likely to develop breast because they had not observed the problem in their friends or did not think the risk was personally relevant unless they took high dosages of PIEDs or were using them for a long time period.

Testosterone imbalances

Some participants reported that they were concerned that their body's ability to produce testosterone naturally was impeded every time they did a cycle of PIEDs. They feared that it could take them several months to produce testosterone naturally again. A couple of participants believed that long-term PIEDs users could result in their natural testosterone system shutting down completely, which meant they would subsequently have to rely on testosterone injections for the rest of their lives.

Testes shrinkage

Participants in all target groups acknowledged that testes shrinkage was a risk associated with PIEDs use, and some participants reported that they had experienced it. Others however, questioned whether it was simply a myth. Key informants reported that they believed this was a major concern for many PIEDs users.

Some participants associated the risk of testes shrinkage with heavy usage. Some did not believe they were at risk because they had taken precautionary steps to prevent it from occurring, by taking a medication at the end of their cycle to 'kick start' their testosterone production.

One young man expressed concern that having smaller testes than other guys would affect his self-confidence if he had a girlfriend.

Having what are commonly called 'sultana nuts' was a salient risk for one gay man because he thought he would not look as good when he was naked. However, another gay user reported that for him, this side effect was not as significant as others as he was 'no longer flaunting his balls'.

Sexual fertility

Several young men reported that they believed that the impact of PIEDs use on their testicular function or sex life could prevent them from having children in the long-term. A couple of men reported that they associated this with a reduced sperm count or testicular shrinkage. Once again, some men only associated this risk with long-term use (5-10 years) or heavy use. Young men who wanted to have children regarded this as their most salient risk.

Sex life

Participants in all user groups reported that they experienced fluctuations in their sex drive and in some cases impotency or difficulty having sex, which negatively impacted on their sex life, causing sexual frustration within partnerships. One man reported that it had caused some arguments with his partner. However, another believed that this type of problem would only occur after 5-10 years of PIEDs use. One young man reported that this as a salient risk because he wanted to be able to maintain a normal sex life.

Deepening of the voice

One key informant reported that some PIEDs users experienced a deepening of the voice.

Hair loss

Users reported that, as a result of PIEDs use, they either lost hair or were fearful that it could lead to male pattern hair loss. A couple of users also reported an increase in body hair growth.

There were a range of reasons given for not being particularly concerned about the possibility of hair loss. These included the following: the belief they were not genetically predisposed to the problem; they had not observed the problem within their friendship group; they had taken a medication to help prevent it, or they did not believe their level of PIEDs use was sufficient to cause the problem. Some viewed hair loss as being genetically predetermined to a large degree and therefore inevitable.

"If you are the type that is going to lose your hair anyway, you are going to lose your hair. I mean I have seen a lot of dudes that are in their late 50s and still using the gear and they've got a full thick crop of hair. Yet you do see some dudes, in their late twenties and they're going bald, so everybody's body is different." (Gay Man/Occupational User)

Participants reported their attitude to losing hair was a matter of personal preference. Some reported they did not want to go bald or lose their hair, whilst others did not regard baldness as a problem. One man explained that the risk of losing hair was particularly important to him as he was already 'going bald at the rate of knots' and did not feel happy about it. Another user commented that he would feel 'freaked out by any change in his body hair'. Some of those who reported that they were concerned about hair loss explained that they were concerned about its impact on

aesthetics and 'looking good'. For some participants, this risk was so salient they would cease PIEDs use if they observed hair loss occurring.

Blood borne viruses (BBV) and other injecting harms

PIEDs users who participated in this study reported that they believed their personal risk of contracting a BBV was very low because they were a) using oral steroids only, b) using clean equipment (new or sterile equipment and not sharing needles), or c) were injecting on their own. A few users also mentioned other aspects of safer injecting practices, such as the use of medicated swabs and using separate needles for drawing up the products and for intramuscular injections.

Some users avoided injecting and preferred oral administration of PIEDs regarding it as a healthier route of administration that reduced the risk of contracting a BBV infection. Those who did inject reported a range of injecting practices. Some injected with other people while others injected alone. One person asked for a nurse at a pharmacy to inject him by telling her that the injections were vitamin B shots.

Participants expressed a concern that other PIEDs users were sharing needles, but no-one in the sample reported doing this themselves. A few participants expressed concern that some people shared containers, e.g., bottles or vials, and as a result, someone could inject a dirty needle into the container and infect the contents.

Users expressed a belief that if PIEDs users were well educated, had a good knowledge of the risks involved, and maintained good hygiene that this reduced the likelihood of BBV transmission. However, one person was concerned that there was a prominent attitude within the PIEDs community that you were less likely to be infected with BBV if you shared needles or equipment with members of the PIEDs community than you were if you belonged to another 'drug' subculture and shared injecting equipment.

Counterfeit or contaminated PIEDs

Participants reported that infections can occur at injecting sites when counterfeit or contaminated PIEDs are injected into shoulders or legs. These infections can result in hospitalisation and/or surgical procedures where infected tissue is removed from the area.

Counterfeit PIEDs obtained on the black market can often be difficult to identify as the packaging is of a high quality. Genuine products can also be tampered with in a number of ways. For example, water-based products can be topped up with non-sterile water resulting in illnesses and infections and oil-based products could be contaminated with other oils, e.g., machine oil or cooking oil, which can also cause you to become ill after use.

"Stanazol is a product which is a water based one and a lot of times they might make two bottles out of one and just top it up with water. You don't know whether the water is sterile or bacteria throughout it or whatever. And sometimes it can cause illnesses as well as infections and things like that." (Key Informant)

Skin infections, abscesses and bruises

Users expressed concern that PIEDs some users experience infections at the injecting site because they do not use alcohol swabs or sterilize properly. This could result in sore injecting sites, skin infections and abscesses, some of which had to be treated with antibiotics. Users reported that if bacterial infection and abscesses under the skin were not treated straight away, they may need to be surgically drained and could result in muscle tissue damage, or 'holes' being cut out of their shoulders and legs.

Participants also expressed concern about the injecting technique of some PIEDs users, particularly when they are first learning to inject. Issues raised were the failure to rotate the injection site (resulting in scar tissue forming), and hitting veins (which could be fatal or cause bruising).

"I am not a medically trained person so I might have had a few disasters with injecting in the past where I might have hit veins, which is a bit deadly ... I have got bruises, we are talking like grapefruit sort of size from injecting procedure because I am not medically trained." (Gay Man)

Cancers

Participants across all user groups reported an increased risk of cancer linked to PIEDs use. Prostate, breast, kidney and liver cancer were all mentioned, as was leukaemia. One person believed that PIEDs could make everything 'grow', including cancers. One person said that cancer was his most salient risk; in fact it was the only risk he was concerned about, as there was a history of cancer in his family.

Injuries to ligaments and tendons

Several users reported that PIEDs use could result in injuries or degeneration of the ligaments, tendons and joints due to 'the muscles not being able to keep up with the weights they are lifting'. One person said that he used a medication to help him with joint problems. One person also reported that he suffered back problems because the weights he was lifting were too heavy for him.

Acne

Acne was a problem that some participants identified as a concern for them. One person reported he was particularly worried about skin problems as this had been a problem for him when he was younger. In his case, acne did develop after PIEDs use and he subsequently ceased use.

Anaemia

A couple of young men expressed concern about the possible risk of developing anaemia after PIEDs use. Their red blood cell counts were a concern to them.

Diabetes

One young man also commented that metabolic diseases such as type 2 diabetes were much more likely when using PIEDs.

Oversized bones and organs

A couple of users reported that the use of particular PIEDs could result in the growth of other organs and bones, as well as the desired muscle growth. One user commented that those taking HGH develop a more pronounced chin. Another reported that he had developed a 'rounded belly' due to the growth of his 'abdominal organs'.

Nose bleeds

One key informant spoke of a PIEDs user who he had contact with who used large doses of PIEDs who had developed continual nose bleeds.

4.5.2 Key informant concerns

One key informant commented that many PIEDs users believed that they were using safer injecting practices because they were using clean (new or sterile) needles and equipment, and were not aware of other injecting practices that may put them at risk of BBV, e.g., putting the finger over the injection site to stop bleeding, and not using swabs. BBV information may not be picked up by PIEDs users as these messages are usually targeted towards users of heroin and other street drugs.

Key informants (many of whom had worked in needle syringe programs (NSPs)) reported that they did not think all PIEDs users were fully aware of safer injecting practices and that the following behaviours could put them at risk:

- Injecting with the same needle that they put into either the ampoule or the bladder, rather than using a separate drawing up needle. When this is not done, the needle 'barbs' and results in greater skin and muscle damage at the injection point.
- Sharing vials and bladders.
- Needle sharing (although they were unsure as to whether this was occurring or not).
- Using a finger to stop bleeding at the injection site, rather than a swab.
- Not using the correct sized needle for intramuscular injections (needles are too small).
- Asking a friend to inject them, and therefore receiving bruises or other damage from unsafe injection practices.
- Misinformed intramuscular injection technique and the fear of hitting a nerve, resulting in a range of problems.

4.6 HARM REDUCTION STRATEGIES

Counterfeit or contaminated PIEDs

Users reported that it can be difficult to distinguish counterfeit PIEDs from the genuine product, particularly as the quality of the labels on the containers can be 'picture perfect'. Some participants checked a number of things to help ensure that products were not counterfeit, e.g., ensuring they had a sealed bottle and checking the seal, or identifying and checking the batch number of veterinary products. Others reported that they attempted to reduce the likelihood of obtaining fake products by ensuring they had a dealer they could trust, or knew where the products are coming from.

One person also said that he had stopped his cycle when he began to feel sick and realized that he was using 'bad gear'.

Others identified and used products that were less likely to have side effects, as a harm reduction strategy. For example, one participant commented that injectibles are more likely to be of a higher quality than oral products, since powders and capsules are more likely to be obtained outside the country.

A couple of people reported that they would use PIEDs products manufactured for human use, rather than veterinary products, as a way of reducing harm. They commented that veterinary products were more likely to produce side effects or harm, as they were of lower quality or not suitable for human use.

"I'm hoping that if I monitor it carefully and maintain a quality supply of pharmaceuticals rather than veterinary grade things, I should be really kind of okay." (Gay Man)

Kidney and liver

A harm reduction strategy identified by some participants to reduce potential damage was to drink a lot of water during a cycle of use to assist in flushing out the kidneys. Some users commented that this would prevent PIEDs staying in the system too long which they believed could result in kidney damage. One person also reported that he used multivitamins and cranberry tablets for the kidneys.

"When you are taking steroids orally, you can't have the steroid stay in your system too long because that would affect parts of your organs ... keep hydrated and drink so much water that the steroids pass through your system." (Young Man/Occupational User)

"Well, obviously drinking more water always helps. You are always trying to keep your water levels up - water is always good, always flushes you out." (Young Man)

Some people reported that oral forms of PIEDs were more likely to lead to kidney and liver damage. Blood tests to check kidney and liver function were regarded by many participants as an important harm reduction strategy and many participants regularly had these tests conducted, particularly before they are about to start a new cycle.

Testicular function

Participants reported that it is common amongst the PIEDs using community to take one of a number of medications or supplements from the health food shop, to 'reignite' or 'kickstart' their testosterone production at the end of a cycle. A number of users reported that the use of this type of medication was a necessary and appropriate component of a cycle of PIEDs use, and that if they are not used, testicular function would be affected adversely.

"It's like main course and dessert, you really need to have it together. You don't really go out to a restaurant to just have dessert or just have a main generally, but, you really need to have it in hand because you have to start your system again." (Gay Man)

"They'll take steroids and when they stop they don't do anything to get their natural body pumping again. You've got to take protest which will getting your testicles working the way they should again, if you don't then you will in the long run loose your sex drive." (Young Man)

Others reported that they would use these medications if they experienced the symptoms.

'Roid rage'

Some users reported having strategies to help manage their anger or prevent incidents of violence or aggression from occurring.

Some participants reported that they used anger management techniques to control any aggression or 'expression of anger' that they may experience, so that it would not affect their usual social interactions. The impact of aggression on relationships was also managed by some users by 'controlling the expression of their anger'.

"I think a lot of people are use 'roid rage' as an excuse ... unstable, angry individuals who don't have much self control ... if they just learned to control themselves and be a bit more self aware they probably wouldn't have these problems." (Occupational User)

Mood swings were accommodated in the relationship because their partners 'put up with it' or knew at what stage of the cycle to avoid them. Other participants reported that they monitored their aggression and its impact on their relationships, and stated their intent to cease use if they demonstrated signs of 'roid rage'. One person did acknowledge that self-monitoring would be difficult.

"If my mood swings (affected) the way I interacted with my friends or family, if it was affecting me, judgment wise ..., definitely, that is something that would cause me to reassess what I was doing to myself." (Young Man/Occupational User)

Other strategies reported included: using stress reducing activities, such as relaxation techniques; taking multivitamins; controlling anger through martial arts; and, preventing incidents of aggression by staying away from potential cues, e.g., situations where a lot of people are present.

"I live a very, very quiet sort of life and stay away from places that like, clubs, or anywhere where, peak hour traffic. I don't shop when it is busy, if there is a huge line and I go to get served and somebody gets served before me I find that rude. Without having it (PIEDs) in me, it wouldn't bother me - I'd think oh that's rude but live with. At other times I would be likely to turn around and say something and then one thing could lead to another. So I sort of live a very quite life when I take it." (Occupational User)

One person took lower doses of PIEDs to reduce the possibility of depression, when they were coming off the cycle.

4.7 PIEDS USERS' EXPERIENCES WITH HEALTH SERVICES

According to the participants of this study health services were needed to address a number of PIEDs related health issues. The issues identified by the sample were as follows:

- treatment for PIEDs related problems, e.g., abscesses;

- harm reduction information, e.g., being taught safer injecting practices, advice about dosages and cycling;
- risk management strategies, e.g., monitoring of harms through blood tests for liver and kidney function; and
- in some cases, medical prescription of PIEDs.

There were a range of experiences identified by PIEDs users in relation to health services. Availability of a range of services, attitudes to disclosure of PIEDs use and the training of health professionals are just some of the issues covered in this section of the report.

Availability of general practitioner (GP) services

Participants reported that some doctors are willing to treat PIEDs users and others are not. In particular, some users reported that they found it difficult to find doctors who were willing to monitor potential harms, e.g., blood tests for liver and kidney functioning.

“There are doctors out there that won’t permit anyone to use anabolic steroids ... you walk in and say I am using anabolic steroids, I want you to have a look at me, and they will just tell you to go home. You know they don’t want to deal with clients like us. But then again there are doctors out there that look after people like us. Because you know if no doctor is willing to look after anabolic steroid users, who else is going to look after us?” (Young Man/Occupational User)

General practitioners who specialised in treating PIEDs users were rare and difficult to find and information about those that do exist is usually disseminated via word of mouth in PIEDs user networks. Users also reported that some doctors were more likely than others to be competent in responding to PIEDs related problems. Some users reported that sports doctors, club doctors and those who had experience with muscle wasting conditions, such as HIV/AIDS or cancer, were more likely to have the skills and/or perspective to enable them to deal with PIEDs users appropriately. NSP workers who acted as key informants in this study reported that they believed GPs who were used to treating opioid dependent clients were more likely to provide a PIEDs friendly medical service. Within this type of service, users could feel more comfortable discussing their PIEDs use and having their risks monitored. One user commented that doctors who have HIV patients or transgender patients have the knowledge to be able to fix them up with hormones.

“I must admit the majority, probably 70-80%, of the GPs that you see will say, bad stuff stay away from it. If you find a sensible GP, and usually you will find it is a GP that has had a lot of experience in people with muscle wasting conditions, things like HIV or cancer, they will be more broad minded and have a better opinion on why steroids should be used.” (Gay Man/Occupational User)

Some users mentioned other factors that could act as a barrier to visiting a doctor. These included cost, difficulty in making appointments months in advance, and the fact that many young men do not see health professionals regularly for any other health issue.

GP responses to PIEDs use and attitudes to disclosure of use

Participants reported there were a range of GP responses to the disclosure of PIEDs use. Some doctors would be rude and abusive after being told about their use, whilst others refused to treat them. Some doctors indicated their disapproval of PIEDs use but were willing to provide treatment

for PIEDs related health problems and provide advice about risk management. Others were understanding and supportive of the user's goals.

"I do go and see them (GPs) and I am open with one of them and that is okay. He is not accepting of it which is fine, I understand where he is coming from. But, I do get regular blood tests to look at a lot of my levels to make sure that (my health) is being looked after." (Gay Man)

"I feel lucky because I have found a GP that really understands what I am on. He understands that I am an athlete and how hard I will take myself ... he does blood tests." (Young Man/Occupational User)

Many users reported that they felt uncomfortable or embarrassed talking about their PIEDs use with a GP. One user described this as nervousness about what the doctor's response would be. A couple of participants reported that they felt embarrassed or uncomfortable talking to their family GP as there was a stigma attached to the illicit nature of PIEDs. A key informant commented that he thought users who inject would also find the stigma associated with injecting to be a barrier to disclosure.

Several young men reported that did not feel comfortable talking to a general practitioner about their steroid use because they expected them to advise them to stop and attempt to deter them from using.

"They are totally against it – you can't speak to them about it ...I was speaking to one before and like he said forget about it. That is why I don't go get tests either 'cause they are just going to give you a lecture, so I don't worry about it." (Young Man)

Not all participants felt uncomfortable talking to their doctor. Some young men reported that they felt comfortable talking to their family doctor about their use because they had been seeing them since childhood and had an existing relationship with them. One user reported that he did not feel uncomfortable discussing his PIEDs use with a GP as he had previously had a positive experience disclosing other drug use to a doctor in the past. Another did not think it was a problem because he would talk to a sports doctors and he believed 'he would understand'.

Responses to discomfort

Some participants used strategies to avoid disclosing PIEDS use. Some reported that they would avoid disclosing PIEDs use to a GP unless absolutely necessary e.g., symptoms started to appear or they had a PIEDs related problem that needed treatment. One user reported that he only disclosed to his doctor after being questioned by him after he had noticed increases in size and weight.

"I am embarrassed going up and saying I want to use steroids and stuff, but, if I saw symptoms and stuff, I would have no choice. I would have to obviously go and see him, but, yeah, it would be just for the embarrassment factor." (Young Man)

A couple of young men reported that they had not continued to talk to GPs about their use after they had encountered attitudes of disapproval.

Others participants used strategies to avoid seeing the same doctor regularly. A couple of young users reported that they avoided the use of a regular GP so that they would not discover they used

PIEDs. One reported that he used a medical centre instead of his family GP to treat PIEDs related problems.

*"I don't really have a regular GP because I know what they would say about it."
(Young Man/Occupational User)*

"I didn't want to go to the same doctor ... I guess you look stupid, you don't really want everyone knowing your dirty laundry." (Young Man)

However, others reported that they would continue to talk to their GP, even when they encounter hesitation. Some users commented that they were happy to disclose their use of PIEDs because of their rights as a consumer: that the consultation was private and confidential, or that they had a right to demand treatment.

"You have to have a doctor to go and talk to – this is what I am going to do, you can like it or you don't have to like it, but you are obligated to treat me. When I ask for this test you give me this test, and you explain what it all means to me. If I do have a problem, I want to be able to ring you up and say I have got this problem ... the most dangerous thing is for somebody to get a few bottles or a bunch of pills and start and not have a doctor." (Young Man)

Others reported that they were willing to continue to see a GP, even after an attempt had been made to persuade them not to use, if they offered practical help.

Prescribing PIEDs

Some users reported that they were able to obtain particular PIEDs on prescription from doctors who were legally able to prescribe for certain conditions. Drugs used to deal with a range of PIEDs related side effects were also obtained from doctors. One user reported that finding GPs who were willing to write prescriptions could be extremely difficult as there were so few who were willing to do this.

One key informant expressed concerns that GPs who do prescribe PIEDs may end up just writing scripts and not paying attention to risk management activities. This could even be more problematic as PIEDs users may be reluctant to report any problems they may be experiencing as this could result in the doctor not providing the prescription.

Attitudes to mainstream services and needle syringe programs (NSPs)

Very few participants reported that they had used mainstream health services such as hospitals, for PIEDs related problems. Some users reported buying needles at their local chemist, although a couple reported that they had told the chemist that the equipment was for a diabetes related condition. However, no-one reported any problems in accessing or using these services.

A few users reported using NSPs to obtain needles. However other users reported that they would not feel comfortable accessing injecting equipment through a needle syringe program.

One key informant believed that PIEDs users who are motivated to be 'hyper-muscular' would regard accessing mainstream health services as 'effeminate'. He believed that this type of user would be more likely to choose GPs who were involved in the bodybuilding culture.

"I don't think that they are hard for them to access. I just don't think that they that they would access them nearly as much as they probably should ... we're dealing with men who are hyper-masculine, hyper-muscular, kind of aggressive ... to access health services, which can sometimes to them, I would argue, be perceived as a little bit femininised, would probably not be the way to go. As I said, the physicians they chose were those who were pretty much embedded in the body building circles themselves, and did body building." (Key Informant)

NSP workers reported that some PIEDs users do access NSPs to obtain clean equipment. Some noted that statistics may not accurately reflect the proportion of users who access these services. They also commented that stigma and potential confrontations with other drug users made it uncomfortable for PIEDs users to attend these services.

"If something goes down as a stat right, they'll start lying. If there's a lot of people around, they'll start changing their type of drug they're using or stuff like that, because they don't want too many people knowing." (Key Informant)

"I find on the needle exchange, you feel like you are a junkie. That is probably the worst part about it. I think that is why a lot of people don't go and get lots of needles because people look at you like you are a junkie. I used to go to the chemist a lot and buy them and say I just wanted insulin ones ... (they're) a lot smaller - means you have got to do more injections. The thing is you don't look like a junkie, which is the image that you don't want. A lot of people don't want to, especially gym people don't want to portray that ... So that is probably the biggest problem, is getting needles without looking like you are a speed user." (Key Informant)

Training health professionals about PIEDs use

Concern was expressed by key informants regarding the naivety amongst health professionals regarding PIEDs related issues. They believed that there was a general lack of knowledge in this area due to insufficient training being provided to doctors on the topic.

Key informants commented that health professionals who have a low level of knowledge about PIEDs can lose credibility with users, and that their lack of knowledge results in improved confidence in the PIEDs user network's 'folk knowledge'.

"So they'd go to the doctor with questions and find out the doctor didn't know anything and in fact, in a lot of aspects, they knew more than the doctor ... in a way it bolstered their own folk knowledge ... they'd go to the person who's officially recognised as the expert and discover the expert doesn't know as much as they do. Therefore they must have expert knowledge." (Key Informant)

Key informants commented that providing training to a range of health professionals, including GPs and NSP workers, on issues surrounding PIEDs use would result in better services being made available. In particular, several key informants and users reported that such training would help prevent health professionals making inappropriate responses to disclosure of PIEDs use.

"Oh basically they don't know enough about what they are doing. They don't want to know anything about what they are doing, and just jump down their throats about it instead of just treating them, and making them feel it's ok to go there for help. They actually more shun them away and a lot of the time they refuse to go back" (Key Informant)

4.8 ATTITUDES TO INFORMATION ON PIEDS

Information seeking

Participants noted that there were different levels of knowledge within the PIEDs user community, with concern expressed about some groups in particular. Several participants, as well as a number of key informants, observed that young men have less awareness and knowledge than older users because they are just starting out.

"It's the young people that present with more queries. The older users, like those who are in security and stuff like that, they usually know a lot more already about what they want and what they want to achieve and how to achieve it. They've already been going to gyms and working out and this is just following on from that introduction]. Whereas with the young people they haven't made their way in to the gym scene yet they're ... just getting started in all that so they're looking for information and whatever they can find out." (Key Informant)

"The young guys get rubbish, and they don't know what they're doing. And really there's no one there to help. There's no pamphlets. They get on the internet, they get even more confused, and they might get lucky and walk in here (an NSP)]. And most of the workers at the NSPs don't know anyway." (Key Informant)

Many participants conducted research to help them weigh up the relative merits of different products, as well as minimise potential risks. The research process could involve evaluating the quality of different information sources and comparing and weighing up conflicting pieces of information from different sources. This type of research can take up a considerable amount of time.

"I tried to do a lot of research. I didn't just go - I am going to do this and take it the next week. It was hard to find, it was expensive and I wanted to minimize harm, so I took probably years of reading before I even took anything." (Gay Man)

"I spent like ages finding out, making sure, uh, like double checking, going to different boards." (Young Man/Occupational User)

"Yeah, I'd weigh it all up like sound medical information compared to underground talk or hearsay or internet crap." (Gay Man)

Some participants reported that they did not research the PIEDs area before they started to use. The reasons given for not doing so were that they had made a spontaneous decision to use, or that they had relied on the recommendations of other PIEDs users. In other cases, users did extensive research before they commenced use in an effort to help inform their decision to use and to guide them in their choice of products.

"I guess because it is such a taboo subject that the information is rarely available. For me it was a bit of a spur of the moment thing, decision. So I guess I didn't research it as much as I probably should of. And I guess that research wasn't as available as probably other things that are out there." (Occupational User/Young Man)

Of those who did not research PIEDS before they started use, a couple of users reported that they started the research process after they had started using. Others continued to rely on the knowledge of other PIEDs users who had practical experience in using PIEDs, or friends whom they perceived had the skills to do the research for them, e.g., a medical student or studious friend.

"I have known some people that take these things and have very little knowledge about how they affect their body. They'll take it on face value - it will improve my physique - without knowing a lot about it, but then again there is a big cross section." (Young Man/Occupational User)

Information sources

Some PIEDs users accessed multiple sources of information. Others reported that they had a primary source of information. The internet, magazines, GPs and dealers were all reported as being the sole source of information for some users. Personal sources of information were preferred by some participants as they found it too difficult to access written forms of information. Some people primarily researched on the internet, while others searched for information from multiple sources, including the internet, magazines, books, as well as a range of personal information sources, such as body builders.

Difficulties in accessing information

Some participants were satisfied with the amount of information that they had been able to access while others were not. A couple of participants reported that they had not come across much PIEDs related information at all.

Some reported that there was very little visible information available on PIEDs in Australia, particularly in gyms. In particular, those who looked for information primarily in written form, such as magazines or pamphlets, reported that the information was fairly scarce. A few also commented that they had not seen any PIEDs related media campaigns or websites that were government funded. Some attributed this lack of visible information to the illicit nature of some PIEDs products.

"You go to dark places to find the dark secrets ...you sort of feel like you are hiding, you are not openly going to a library to find the things. You go into sort of places that are dark and sometimes you get dark answers." (Young Man/ Occupational User)

As a result, some men reported that they thought there was little information available for PIEDs users. Others thought it was available, but difficult to access.

"There is absolutely nothing out there to get hold of, no books, or fliers, or anyone to talk to about it ...these people need help, and they need to be told how to use these things for their own safety and their own benefit. I am not sure exactly how we would go about it. Because there needs to be a lot more information out there." (Young Man/Occupational User)

Whilst some thought that there was more than enough information on the internet, others reported that they found it difficult to find good quality and accurate information on the internet.

Some reported that they had trouble finding information about particular topics, e.g., they had not been able to find any information on what was considered to be excessive use, which PIEDs could be used in combination, or information regarding long-term effects.

Some noted that the variety of information sources available, the variable quality and the complex subject matter made researching the area particularly difficult. One young man reported that he found the research process confusing and experienced difficulty in understanding the information that was available.

“Instead of making decisions coming from my friends, making decisions from websites ... there is so much information that I can't really understand.” (Occupational User/Young Man)

Several young men commented on the lack of definitive information about which products they could not take, or about the harms that they would experience.

“My mate looked it up on the internet ...and couldn't really find much information apart from a few body building sites where they were all for it. We couldn't really find anything saying, don't do this, don't do this, don't do this.” (Young Man/Occupational User)

Perceptions of information quality

Biased information was considered to be information that only reported one side of the story. Some participants reported that some information sources only reported positive information, and others reported that some information sources only reported negative information.

“I tried to have a look for that kind of information trying to deter me away from it but everything was sort of quite positive.” (Gay Man)

Information was regarded as less credible if it used scare tactics, exaggerated the side effects, or was opinion based rather than using facts. Some thought that information that was based on opinion rather than personal experience was less helpful, whereas others regarded personal experiences as of greater importance.

Credible information was considered to be information that reported both sides of the story, or which came from a credible source. Three types of credible sources were reported: professionals and experts; experienced personal sources of information, and skilled contacts.

Professionals and experts

Some participants wanted to talk to an expert who could tell them the facts rather than their own personal stories. Some participants regarded professionals to be a reliable source of information because able to provide unbiased information, presenting both the positive and negative aspects of use. Some examples of these include government agencies and websites, GPs, and sports trainers.

Experienced personal sources of information: PIEDs users who had achieved results were also perceived to be credible by some participants; for example, experienced body builders who were competing on the world circuit, or who had won an Australian championship in the past, or other PIEDs users from their gym who had a particular muscular build that they admired. Participants reported that PIEDs users who had not yet achieved a big build would not be listened to.

“Obviously you don't want any fella that has been there. I don't think massive guys are going to take information from a 60 kilo man in his mid 40s telling him why they shouldn't do it,” (Occupational User)

Skilled contacts: Family members or friends who were medical students, or who were perceived to have specific skills that the user did not have, e.g. being able to access information from the internet, were also regarded as more credible sources of information.

4.8.1 Current and potential information sources

Providing information and education to PIEDs users was regarded by many of the participants as the most important support strategy for this group. A wide range of information sources were identified as either current sources of information, or potential sources. Whilst some users reported that they had not personally received much comprehensive information from sources such as medical clinics and NSPs, they still regarded them as potential sources of information.

The Internet

The advantage of the internet was that it was seen to be free, quick and easy to access, and the information provided was able to be up-to-date as it was able to be released immediately. Users also reported accessing the internet to order and obtain PIEDs. However, whilst many users were able to access the internet this was not the case for all participants. Some reported that they had no access, and others reported that they did not feel competent enough to use it.

Some regarded the internet as a good source of information and made no comments about the quality or reliability of the information. Others saw the quality to be highly variable and questionable.

The information provided on the web was sometimes confusing because they it was difficult to process vast amounts of information and decipher the jargon. As a result, some users were unable to understand the information that was available on the internet.

Users reported that they thought a credible website from a trusted source could provide definitive information that would help them in their research process.

"I don't think there is really any thing that is specific that like I would like something on the packet or at some website that because the whole industry there seems to be kind of misinformation about even like the basics, you know how long you are supposed to spend in the gym things like basics that what can be a help with your training and it's be nice if there was a kind of way that you can find information on that whether it be a trusted web site or just something on the packet." (Young Man)

Some websites were regarded as more credible than others. Participants indicated that websites which provided both positive and negative information were regarded as more credible. Websites attempting to sell particular products and only contained positive information were not seen as credible. One person commented that the more popular sites could be regarded as more credible.

Some users believed that websites supported by a government agency would be more credible and likely to be fact based. However, others viewed government sites negatively and believed they lacked credibility as they had a 'right wing agenda' and were likely to be more biased.

Pharmaceutical companies and medical agents were regarded by some as potentially being able to provide a balanced and credible review of products. However, others regarded it as difficult for a company to maintain credibility if they are trying to sell you something.

Internet forums

The perceived advantages of internet forums (or 'chat rooms') were that you could post a question anonymously and talk to experienced body builders. Some body builders are regarded as 'icons' on internet sites. Due to its anonymity, this information source was viewed as attractive by PIEDs users who did not necessarily trust other users, or feel comfortable talking to them face-to-face

Some users commented that internet forums were a good source of advice because they valued the information from experienced body builders. Participants valued experiential knowledge as it could provide advice on tailoring specific products and dosages to the individual, and went beyond the limits of current scientific knowledge by providing information on the results of experimentation.

Others commented that the quality of the information on internet forums may be variable because the PIEDs users providing the advice may be 'meat heads' from the gym, and not particularly bright, or teenagers with little experience. However, despite this concern, some participants believed that this was a good method for learning about other personal experiences PIEDs users may have had.

Printed resources

Some participants reported that they thought the information provided in printed resources currently available was too basic and not comprehensive enough to be helpful. One participant did not find a pamphlet he had been given particularly helpful as it contained little detailed information and simply listed some of the side effects that could occur.

However, resources providing general information about PIEDs and referral information for users regarding clinics where they can talk freely about their use were reported by some participants as being potentially helpful. Others reported that they would appreciate information presented in this format if delivered by a credible source.

"It would be great if it (information) was more easy to get. For example, going to see a doctor and there are pamphlets ..., then you don't have to go to as much trouble ...it is just there for you, you know if you are thinking about it you can access it more easily and just read through it." (Young Man)

A couple of NSP workers reported that their service had produced a pamphlet specifically examining intramuscular injection and that there were similar resources from other jurisdictions. One key informant reported that it would be good to have an updated pamphlet from the government.

Many of those interviewed believed that the best place to distribute information would be at gyms, as this is where the body builders train. There was concern that if someone collects PIEDs related information from a gym, there is the possibility that he would now be regarded by some as a 'steroid freak'. A couple of users commented that information resources should be placed in a safe and

discrete place in the gym, such as the toilets, where people would be able to pick up a pamphlet without embarrassment. Other suggestions for distribution were the locker rooms, or on bulletin boards in workout areas where PIEDs users could easily see them. One participant reported that whilst gyms may not be comfortable distributing information about PIEDs, they may feel more comfortable putting up posters about clinics and services for PIEDs users.

Participants also suggested that pamphlets or flyers could be distributed with gym supplements through chemists and other suppliers. University gyms and unions were suggested as good places to access young men. One person commented that distributing information through nightclubs would not be a helpful strategy because people may have been drinking. Whilst one young man reported that it would be good to be able to access pamphlets at GPs' surgeries, others did not believe this to be an effective strategy.

There was also a suggestion that better guidelines about safer and more effective use should be provided with legally available PIEDs products. These guidelines could include information on dosage and potential health risks, and should be distributed with products at the point of sale, i.e., health food shops and pharmacies. One person also commented that guidelines about usage need to take into account the interaction of creatine with different ethnic backgrounds, e.g., Arabic or Asian.

Magazines

Most participants believed that magazines were a poor source of information. Some users reported that 'muscle magazines' could sometimes print articles on PIEDs use however, others believed that these were more likely to be advertisements for specific products.

"Most of the time it is just advertisements though for different products, not steroids, but things like creatine, stuff like that, most of that is just advertisements, they don't really talk much on it." (Young Man/Occupational User)

Participants reported that they had not seen anything negative about creatine and other legal substances, and that they viewed this information as biased because it was produced by the manufacturers.

"You don't find anything negative about taking protein from the back of the pack or a pamphlet from whoever makes it ... I have had to find negative effects – I only actually found out that there were negative effects after I had been taking it 6 months." (Young Man)

Much of the material that health food shops provide was not regarded as reliable and participants reported that consumers need to 'filter out a lot of crap'.

Others had found magazines to be a good source of PIEDs related information. Some muscle magazines, health magazines and men's health magazines (particularly those from the USA) have specific columns where readers are able to write in questions to pro body builders who have used and get feedback.

"Those magazines are pretty good, they focus not only on the bad like, don't do steroids. You know it's helping you through it, like they tell you what symptoms, what to do if you are feeling angry, or what to do if you see signs of these, not just don't do steroids, they're bad for you."
(Young Man/Occupational User)

Medical journals

One participant reported that he obtained PIEDs related information by reading journal articles rather than the summaries often provided on the internet. He commented that he was able to do this as he was a medical student and was able to source these journals.

Dealers

Some users reported that they received information from dealers who supplied them PIEDs. A couple of participants identified their dealer as their primary source of information. One user said that his dealer was his primary source of information about products and dosages because he was unable to locate the information about particular PIEDs products from other sources.

"Information about what drugs to use and in what quantities I have got from the person that sold it to me. I have tried to read articles that they have had at the gym and magazines ... they sometimes had articles on steroids. But I have found I read through those articles and they just discuss steroids that are not available to me, particular brand names and stuff and so." (Gay Man)

General Practitioners

Some users expressed a preference for personal professional sources of information, such as GPs, because they found it too difficult to access written forms of information. However, not all users regarded GPs as a credible source of information. Some participants believed that GPs knew little about the area and had difficulties accessing accurate information.

"I guess I would want to see someone who knows more about what I am what I am feeling and like what I am attempting to do by taking this rather than having to go see a doctor. You have people in and out of there with sickness and things, so more social help I think would be good." (Young Man)

A number of key informants reported that some members of the medical profession were losing credibility amongst PIEDs users because they recommended dosages that did not get the desired results.

Friends and other PIEDs users

Users reported that they often obtained information from friends and from other PIEDs users at the gym. In order to access information in the gym environment, it was often necessary to identify other PIEDs users by looking for possible signs of use, e.g., large muscles, water retention, acne and baldness. Users reported that it took time to make connections with other users and they needed to develop trust and persuade them to give them the information. There were also participants who reported that they had never told anyone at the gym about their PIEDs use, and did not know of any others who used.

"If you are in that social sort of group where there are people that you know are taking a lot of steroids, then you can talk to them about it. I have done that a lot. You work out in the gym most days, see other people in there, steroid use is something that is talked about quite often ... you get to know who is taking steroids and who is not and I can pick it now, just by looking at a guy whether

he is taking steroids. I look at his ankles and I see a bit of a dent, like a bit watery, you can just tell he's holding water. That is one of the common side effects like if he has got lots of acne if he starting to go bald ..." (Young Man/Occupational User)

"I am sure there are people in the gym that do use but they just don't really talk about it. Guys that use tend to keep quiet until they had enough trust with each other." (Young Man/Occupational User)

The quality of the information provided by other PIEDs users was perceived as variable, with some PIEDs users being perceived as providing less credible information than others. Some participants reported that PIEDs users who were larger were more credible but others reported that they looked for PIEDs users who were more intelligent, and had skills in accurately assessing the information.

"I think it all depends on what kind of intelligence level you have. I am amazed at some people's knowledge like you know, it scares me sometimes. Like there are some guys at the gym I train at, and it really, it really bothers me like I try to educate them in a way that I can but because I am not 120kilos and busting out of my shirt ...people don't think I know what I am talking about. I mean there is plenty of information; it's just knowing where to get it." (Young Man)

The information obtained from other PIEDs users was also seen by some as inaccurate and contradictory. For example, some believed that information obtained from peers could be simply 'gossip' or based on urban myths.

"For example, two friends have completely opposing views. One says do less longer, one says do more longer ...there are all these different conflicting arguments." (Gay Man)

Peer education models

Key informants commented that they believed peer education models incorporating outreach, i.e., going out to the gyms and engaging with people, would be an effective model of education. Peer educators were regarded as having credibility with other users, being able to gain trust and respect, and being able to use their own established networks to access people. A peer education model has been operating in Victoria for some time and key informants identified this as a successful model, particularly as it was well utilised by PIEDs users.

Hotlines

Some participants who had found it difficult to access information from the internet reported that they believed a PIEDs related hotline could be a potential source of information. The qualities of a hotline that were attractive to users included: anonymity; it 'reduces the embarrassment factor' of seeing someone face to face; a fast and easy way to get answers to the questions that you want; and if it comes from a credible source, they know they will be getting quality responses. However, one person reported that despite the fact it was anonymous, it would still be necessary for him to use a public phone if he were to access it.

Personal trainers

Participants reported that they were unable to obtain much information from personal trainers or other gym workers. Whilst no-one reported that personal trainers had been a source of PIEDS information for them, some reported that gym workers, who have been given specific training in the PIEDs area and know what they are talking about, could be a possible source of information.

One person said that he had spoken to gym trainers and that they appear to know little about the area.

Information sessions

PIEDs users who wanted a professional source of information thought that information sessions provided by a credible source, e.g., a medical professional, could prove useful. These sessions could be advertised through gyms.

Youth information strategies

Key informants regarded information campaigns targeting youth through school-based education (e.g., personal development, health and physical education (PDHPE) classes), sports and recreation centres used by young people, teenage magazines, and state sports competitions for young people were a good way of providing PIEDs information to young men. Some key informants saw it as particularly important to establish rules for sporting events with young people.

4.8.2 Additional support strategies

In addition to the range of current and potential information sources identified, PIEDs users reported a number of additional support strategies that would be useful.

Legalisation of PIEDs

Some users and key informants believed that all PIEDs products should be made legal and doctors should be allowed to prescribe. This would allow medical practitioners to control the dosages that are administered and be more proactive in managing the problem. It would also reduce PIEDs users' reliance on the black market, eliminating concerns regarding purity, and removing the criminalisation of people who use PIEDs. Some users noted that if this was the case, a registry of users should be set up to ensure that the people do not double up their prescriptions.

"They need to get rid of it off the black market; it does more damage than good ...the government needs to do something, to make it more accessible. They are going to do it, no matter what. Better to give it to them clean than just feed them crap. I don't know how they do that but." (Young Man)

"Well, for the people that do use them, to use them at dosages, to have time off ...probably like a national registry of people that are using it, so one person can't go from one doctor to the other and double up. But again that would keep it underground for the people that want to use it professionally. And to get huge, huge, like Arnold Schwarzenegger huge." (Gay Man)

However, others thought that legalising these products would make them accessible and may increase the likelihood of 'roid rage'.

Providing drugs to medicate the side effects

Another medical strategy that was suggested was to make drugs available that help PIEDs users deal with side effects.

"One risk reduction strategy would be for the government not to make anabolic steroids readily available, but to make the side effect counteractors readily available. So ..., if you make them readily available there will be less problems with the anabolic steroids." (Young Man/Occupational User)

Specialist clinics for steroid users

A couple of users commented that there did not seem to be any government services for PIEDs users, whereas services are provided for other drug users.

"There hasn't been a lot of attention given to steroid use ...there is a lot of support for services for drug and alcohol users but not for steroid use ... people don't think it is as widespread as it really is so I think that is why there are no services. There definitely needs to be more out there." (Gay Man)

Some users suggested that a specialised clinic for PIEDs users would allow them to access the services that they needed without feeling judged, or worried about prosecution.

"So you set up a clinic and you provide information on the boards, provide medical practitioners who know all about the area, and then you need to get that message out there to body builders that they can go there and they won't be judged and they won't be prosecuted." (Young Man/Occupational User)

One participant said that he would not use a specialised PIEDs service because of the stigma attached.

"If you start walking through the door to a steroid doctor then everybody, every Joe Blogs, driving past or seeing you is going to know he is a steroid user." (Occupational User/Young Man)

A couple of users commented that they would also like a specialist service in which PIEDs products could be tested for purity.

Support for PIEDs users ceasing use

Several users commented that there were no support services available for PIEDs users who were seeking to stop using. They believed that it would be particularly good to talk to someone with regards to coping with losing muscle and size when you are coming off. One person wanted to find a professional to give information and advice about how to achieve his goals without PIEDs use.

"Yeah, I was thinking to ask someone who is professional about these things, just talk to them. How can I achieve what I want without using steroids? But I couldn't find anyone to help me on that." (Young Man)

"I think when I will need the support is when I am coming off the steroids and that is not available." (Gay Man)

"Just someone maybe who has been there that you can talk to, tell them what you are going through ...what happens when you start lose muscle, better ways of doing it without it." (Young Man/Occupational User)

Perceived information needs

A range of information needs were identified by the participants in this sample. These are as follows:

- **Quality information** - how can you tell the difference between counterfeits and the real thing?

- **Dosages** – safe dosage levels; optimum dosages that would reduce risk of harm. Some suggested that this information could be provided in the form of guidelines or a dosage chart.
- **Services** - list of doctors who are able to provide practical help
- **Medications to counter side effects** – post cycle therapy
- **Product information** - which are the best products, what PIED does what, and what are the side effects of each?
- **Safer injecting practices**
- **Health harms** - long term and short term effects, how accurate are the reports of side effects?
- **Body building information** - to get optimum effect from PIEDs use, information on diet, sleep, and exercise regimes
- **Symptoms that require a medical intervention** – when should you consult a GP?

Information about salient risks that users thought should be distributed amongst PIEDs users:

- Safer injection practices, not sterilising properly and ending up with skin infections; not wanting to hit nerves
- The impact of high dosages onroid rage
- Long-term damage
- The impact on mood
- The relationships between testosterone and cholesterol
- Cancer risk
- Effect on the prostate

Participants commented that they wanted information that presented both the positive and negative aspects of PIEDs use in a non-judgmental and non-preaching way. Some also reported that personal stories of negative experiences would be more convincing and have greater effect than simply presenting facts about long term risks.

Some participants advocated that general advice about how to minimise risk was all that was required, e.g., don't take too much, have some time off, go to the doctor to get kidney and liver tests.

In addition, key informants commented that information about products that have fewer side effects, advice on how to identify counterfeit products and injecting risks are all important. They also commented that young people may not be aware that they also need to maintain a disciplined exercise regime to gain the results, and that some men wanted information about how long they could continue to use PIEDs products without it having any negative effects.

“Especially for young men - you start talking about that and you see ‘em squirm. They also seem to think ‘ok how long can I do it for before that happens?’ That’s the sort of questions they want to know. ‘How long can I safely use anabolics for and not have these side effects?’” (Key Informant)

NSP workers reported that there was a low level of knowledge about safer injecting practices, particularly about broader aspects of procedures, i.e., beyond the practice of simply sterilizing needles.

Information that they wished that they had when they started

Participants were also asked whether there was any extra information that they wished they had when they commenced PIEDs use. Some users reported that there was none. A few of these commented that this was because they had conducted a great deal of research and had located the information that they needed, or knew other people who were well informed who were able to assist them.

The information that participants did identify was as follows:

1. Information to guide them in obtaining and using PIEDs in an optimum way.
 - Where to get quality PIEDs, i.e. those that are not counterfeit, how to spot fakes?
 - How to use PIEDs:
 - information about which products are going to give you the best effects.
 - appropriate doses for your body build. Please note: despite comments about needing to know how much to take, participants recognised that it was an 'art form' and a 'trial and error' approach is often necessary to tailor to individual needs.
 - Nutrition and exercise regimes required to get the optimum effect.
2. Harm minimisation information
 - Safer 'stacking' information, i.e. how to combine PIEDs products more safely and effectively
 - Safer injecting practices

Information that would affect their decision to commence PIEDs use

Many participants reported that their decision to start using PIEDs could not have been affected by any information provided. Of those who provided an explanation for why this is the case: some reported that the information on which they based their decision to start using was sufficient, as they had researched it thoroughly. Others just wanted to start using without thinking too much about it, or only intended to use in the short term so did not think they needed to weigh up the long term risks.

"It wasn't really a risk for me ..., I knew I wasn't really going to have much trouble doing it. Doing a short stint as I was doing. But I guess if I was thinking about going into it long term ... I guess you would want to look a lot harder into the effects that it might have on you." (Young Man/Occupational User)

A couple of participants commented that if they had been more aware of the health risks involved, they may have made a different decision.

"Then I got into the industry and I learned a little more. I wish I had known a bit more about the psychological aspects. It would be pretty hard to stop now that I have been taking them for two

years. A little bit more foresight into how hard it would be to stop and the other major risks. When I first started I never knew that it would do anything to you internally, I thought it just went straight to your muscles and they got bigger and it would just wash away when you stopped, just flush out of your system no worries at all.” (Young Man/Occupational User)

A couple of participants reported that exposure to real stories of users who had had bad experiences (as opposed to information about the long term effects), or knowing someone who had been hospitalised, would have made them think twice about commencing PIEDs use.

SECTION 5 DISCUSSION

This study explored the attitudes and experiences of PIEDs users and key informants on various aspects of PIEDs use. Participants reported a range of attitudes and experiences with regards to PIEDs use including motivations and deterrents, harm reduction strategies, use of information, and health services.

Motivating factors given for PIEDs use focused on physique and body image, with an increase in body size, strength, and muscle tone reported to be valued outcomes for all three user groups interviewed. Participants also attributed gains in physique and body image to social benefits or advantages in occupational and sporting fields. Whilst these motivations are similar to those reported in previous research (Larance et al., 2005b) a more in depth description of these motivations is provided in this report. This report adds new information to the body of literature about user perceptions of deterrents to use, reasons for thinking about stopping, and difficulties in ceasing use.

In particular, users expressed concerns about short-term and long-term harms associated with PIEDs use. They reported that they would stop using if they experienced serious health problems for example, abscesses or nerve damage that affected the muscles, or kidney, liver or heart problems that would result in severe long term negative consequences. Physical changes such as breast development, shrunken testes, or baldness were listed by participants as particularly undesirable side effects and some participants reported that they would contemplate ceasing use if they experienced these harms. The impact of PIEDs use on personal relationships (partners and parents in particular) was also mentioned as possibly motivating a decision to cease use.

Several recommendations for prevention and harm reduction messages, as well as a range of intervention strategies follow. Some of these recommendations are specific to particular target groups, others apply to all user groups. However, it is important to note that membership of one of the three target groups did not necessarily exclude a participant from identifying with another group (for example, those who identified as occupational users could also be young males and gay).

YOUNG MALES

Consideration needs to be given as to how to best target young men who are considering PIEDs use. Young men who participated in this study were particularly concerned about side effects relating to infertility. Young men also expressed concern about PIEDs use and its effects on relationships (social, emotional & physical). Some young men indicated that they would contemplate ceasing use of PIEDS if they married or wanted to have children. In addition, young men who participated in this study frequently commented that they would only contemplate ceasing PIEDS use if they had experienced short term or long-term health harms, and some did not think that this would be likely because they were not planning to use PIEDs long term.

Some young men reported that they had difficulty accessing and understanding PIEDs related information and, as a result, they were often reliant on other PIEDS users for information. Therefore, mentoring and peer education play an important role within this group.

RECOMMENDATION

It is recommended that

PIEDs information is incorporated within current school-based drug prevention programs. These programs should present information without jargon and acknowledge the advantages of PIEDs use but clearly outline potential harms. Particular emphasis should be placed on harms that young male participants were concerned about, including sexual performance, shrinkage of testes, sexual fertility. Any drug prevention messages should also address the possibility of developing 'roid rage' and the affect that this may have on their personal and social relationships.

OCCUPATIONAL USERS

There is little extant literature on the use of PIEDs for occupational reasons. The data gathered in this study suggest that occupational users may be getting the desired results from PIEDS use. Given the physical results obtained from their PIEDs use and the pressure within certain industries to look a particular way it may be difficult to influence this group. However, it is important to note that occupational users, like other PIEDs users, are also influenced by personal issues relating to self-image, confidence, and notions of masculinity. The analysis also identified negative attitudes about PIEDs use within the security industry, and in particular the perception that security guards rely on 'size' rather than 'negotiation skills' when it comes to undertaking their work. Participants also suggested that drug testing was not widespread and therefore did not appear to be much of a deterrent to PIEDs use within the security industry.

RECOMMENDATIONS

It is recommended that:

- A review of current training conducted for security industry personnel is undertaken with the aim of placing greater emphasis on the use of 'talk down' methods when dealing with difficult clientele.
- Drug testing for PIEDs should be considered in industries where they are likely to be commonly used.

GYMNASIUMS

Gymnasiums were identified by users and key experts as logical and sensible locations for the distribution of information. It was also the case that personal trainers were generally not seen by participants as a sources of credible information on the use of PIEDs. While the provision of information at gyms may seem reasonable and logical, it is likely to be difficult to achieve. Interviewers in this study encountered difficulties in recruiting key informants for this research because of the reluctance of management and employees in the gym industry to become involved. Gym management and those employed in the industry reported that whilst PIEDs use occurs, they did not believe it was occurring in their gym.

RECOMMENDATIONS

It is recommended that:

- Research within the fitness industry is conducted to explore current attitudes towards the use of PIEDs by both gym management/owners and employees with the aim of identifying

acceptable ways of distributing PIEDs related information through gymnasiums. This recommendation is made with full understanding of the potential barriers that exist in undertaking such research. Research in this area is more likely to succeed if it is undertaken by those who are seen to have some credibility within the industry.

- Information about PIEDs is incorporated into education courses for personal trainers that are provided through recognized training institutions. This will ensure that employees in the fitness industry are well versed in PIEDs use and potential side effects. Information should address the use of PIEDs, user perceptions of benefits and potential negative effects of use and possible interventions.

SPORTS CLUBS

Some participants, who were contracted members of sporting clubs, reported concern about the compulsory use of Creatine within their sport.

RECOMMENDATION

It is recommended that:

- Information is provided to sporting clubs about the use of PIEDs with the view to promoting the dissemination of preventive messages through these organizations. In particular, the problems associated with the compulsory use of legally available products (such as creatine) should be emphasized.

INFORMATION SOURCES

Participants identified a wide range of information sources including websites, internet forums, magazines, medical journals, dealers, general practitioners, and other PIEDs users. Participants expressed uncertainty about the credibility of information across the various sources. Credible information was considered as information that reported both sides of the story, or which came from a credible source. Other potential information sources identified included hotlines, personal trainers, information sessions and youth education strategies.

Some participants reported difficulty in accessing and understanding the information that was available because of the use of scientific jargon, and lack of experience in conducting personal research. In particular, some participants reported that they could not find any specific information on negative effects of PIEDs and reasons why not to use. This was particularly evident in comments from young men. The results identified that some PIEDs users need assistance and support in reducing and ceasing PIEDs use, particularly around psychology of body image, i.e., losing body size. This assistance could come in the form of a helpline, booklet or an interactive website. This study highlights the need for evidence based non-judgmental, clinically practical information that addresses key issues of interest and concern to PIEDs users and health care professionals.

RECOMMENDATION

It is recommended:

- A 'high quality' website is developed to provide information to those contemplating PIEDS use. The content of any such website should ensure it uses simple language, that it is easy to use and to access. The website should target currently available and commonly held beliefs that are untrue about the use of PIEDs. The success of such an undertaking is more likely if the information generated comes from a credible source, such as former users and natural body builders.

HARM REDUCTION STRATEGIES

Harm reduction strategies reported included identifying high quality products that were less likely to have side effects, drinking water to flush out the kidneys, having regular blood tests for kidney and liver function, taking medications to counter harms (e.g. to re-activate testicular function) and not taking high doses of PIEDS. Some of the harm reduction strategies that were reportedly used by participants may not be evidence based (e.g., flushing water through kidneys or the use of medications to counter side effects).

RECOMMENDATIONS

It is recommended that:

- Further research into the harm reduction strategies currently employed by users should be conducted to assess whether they are effective and to ensure that they are not causing greater harm.
- A 'high quality' booklet be produced that addresses common misunderstandings about harm reduction strategies and outlines recommended harm reduction strategies. Any such publication should be brief and easy to understand (using non-jargon, non-medical terms).

HEALTH SERVICES

Participants sought a variety of 'services' from health professionals such as general practitioners. These included: information/advice, monitoring, health care for specific PIEDs related problems such as abscesses, as well as seeking prescriptions for a range of pharmaceutical PIEDs products.

The results identified health professionals' lack of PIEDs related knowledge was a significant barrier to accessing health care. Some PIEDs users may regard themselves as more informed than their own health care provider. Users also raised the issue of potential negative reactions from health professionals as a barrier to accessing health services and/or disclosing their PIEDs use (e.g. disapproval, denial of access to treatment etc.).

RECOMMENDATION

It is recommended that:

- Information based training on PIEDs use be made available to medical practitioners and NSP workers and other health professionals. The development of a 'high quality' website, as mentioned above, may help disseminate information among health professionals.

SECTION 6 REFERENCES

- Australian Crime Commission. (2003). *Australian Illicit Drug Report 2001-2002*. Canberra: Australian Crime Commission.
- Australian Institute of Health and Welfare. (2005). *2004 National Drug Strategy Household Survey: First Results* (No. AIHW cat. no. PHE 57). Canberra: AIHW.
- Australian Olympic Committee. (2000). *Submission: Substance Abuse in Australian Communities*.
- 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.
- Beel, A. (1996). Anabolic steroids: should doctors prescribe? *The Journal of Performance Enhancing Drugs*, 1(4), 125-134.
- Beel, A., Maycock, B., & McLean, N. (1998). Current Perspectives on Anabolic Steroids. *Drug and Alcohol Review*, 17, 87-103.
- Bolding, G., Sherr, L., & Elford, J. (2002). Use of anabolic steroids and associated health risks among gay men attending London gyms. *Addiction*, 97, 195-203.
- Braithwaite, B., & Nicholas, R. (1996). *Future Directions in Anabolic Steroid Policy in South Australia* (The Report of a Strategic Planning Process). Adelaide: South Australian Drug and Alcohol Services Council.
- Cafri, G., & Thompson, J. K. (2004). Measuring male body image: a review of the current methodology. *Psychology of Men and Masculinity*, 5(1), 18-29.
- Cameron, A. J., Welborn, T. A., Zimmet, P. Z., Dunstan, D. W., Owen, N., Salmon, J., et al. (2003). Overweight and obesity in Australia: the 1999-2000 Australian diabetes, obesity and lifestyle study (AuDiab). *Medical Journal of Australia*, 178, 427-432.
- Causton, S. (1993). Pump it up: Steroid Use by Young People. *Connexions*, 13(1), 2-7.
- Clark, A. S., & Hendersen, L. P. (2003). Behavioural and physiological responses to anabolic-androgenic steroids. *Neuroscience and Biobehavioural Reviews*, 27, 413-436.
- Copeland, J., Peters, R., & Dillon, P. (2000). Anabolic-androgenic steroid use disorders among a sample of Australian competitive and recreational users. *Drug and Alcohol Dependence*, 60(2000), 91-96.
- Corrigan, B. (1996). Anabolic steroids and the mind. *Medical Journal of Australia*, 165, 222-226.
- Daly, R. C., Su, T.-P., Schmidt, P. J., Pagliaro, M., Pickar, D., & Rubinow, D. R. (2003). Neuroendocrine and behavioural effects of high-dose anabolic steroid administration in male normal volunteers. *Psychoneuroendocrinology*, 28, 317-331.
- Drummond, M. J. N. (1994, November 1994). *Muscles, men and masculinity*. Paper presented at the Paper presented at the AARE conference. Newcastle.
- Drummond, M. J. N. (2005). Men's bodies: listening to voices of young gay men. *Men and Masculinities*, 7(3), 270-290.
- Edwards, S., & Launder, C. (2000). Investigating muscularity concerns in male body image: Development of the Swansea Muscularity Attitudes Questionnaire. *International Journal of Eating Disorders*, 28(1), 120-124.
- Ehrnborg, C., Ellegard, L., Bosaeus, I., Bengtsson, B., & Rosen, T. (2005). Supraphysiological growth hormone: less fat, more extracellular fluid but uncertain effects on muscles in healthy, active young adults. *Clinical Endocrinology*, 62, 449-457.
- Evans, N. A. (2004). Current concepts in anabolic-androgenic steroids. *The American Journal of Sports Medicine*, 32(2), 534-542.
- Grogan, S., & Richards, H. (2002). Body image: focus groups with boys and men. *Men and Masculinities*, 4(3), 219-232.
- Handelsman, D. J., & Gupta, L. (1997). Prevalence and risk factors for anabolic-androgenic steroid abuse in Australian high school students. *International Journal of Andrology*, 20(1), 159-164.
- Harvey, J. A., & Robinson, J. D. (2003). Eating disorders in men: current considerations. *Journal of Clinical Psychology in Medical Settings*, 10(4), 297-306.
- Henry-Edwards, S. (2004). *Report to the Ministerial Council on Drug Strategy*.

- Kicman, A. T., & Gower, D. B. (2003). Anabolic steroids in sport: biochemical, clinical and analytical perspectives. *Ann Clin Biochem*, 40, 321-356.
- Kindlundh, A. M. S., Hagekull, B., & Isacson, D. (2001). Adolescent use of anabolic-androgenic steroids and relations to self-reports of social, personality and health aspects. *European Journal of Public Health*, 11, 322-328.
- Kuhn, C. M. (2002). Anabolic Steroids. *Recent Progress in Hormone Research*, 57(411-434).
- Larance, B., Degenhardt, L., Dillon, P., & Copeland, J. (2005a). *Rapid assessment of performance and image enhancing drugs (PIEDs) in New South Wales: Feasibility study* (Technical Report No. 239). Sydney: National Drug and Alcohol Research Centre.
- Larance, B., Degenhardt, L., Dillon, P., & Copeland, J. (2005b). *Use of performance and image enhancing drugs among men: a review* (Technical Report No. 232): National Drug and Alcohol Research Centre University of New South Wales.
- Leit, R., Gray, J. J., Harrison, G., & Pope, H. G. J. (2002). The media's representation of the ideal male body: A cause for muscle dysmorphia? *International Journal of Eating Disorders*, 31(3), 334-338.
- Leit, R., Harrison, G., Pope, H. G. J., & Gray, J. J. (2001). Cultural expectations of muscularity in men: The evolution of Playgirl centerfolds. *International Journal of Eating Disorders*, 29(1), 90-93.
- Maycock, B. (1999). Factors contributing to anabolic androgenic steroid related violence. *The Journal of Performance Enhancing Drugs*, 2(3), 4-15.
- Maycock, B., & Beel, A. (1997, July, 1997). Anabolic Steroid Abuse and Violence. *Crime and Justice Bulletin: Contemporary Issues in Crime and Justice*, Number 35.
- Maycock, B., & Hansen, D. (1998). *Final Report for the Illicit Steroid Strategy Project* (Unpublished).
- McCabe, M. P., & Ricciardelli, L. A. (2004). Body image dissatisfaction among males across the lifespan: A review of past literature. *Journal of Psychosomatic Research*, 56, 675-685.
- Millar, A. (1996a). The Medical Prescription of Anabolic Steroids. *Centrelines*, 26.
- Millar, A. (1996b). The Medical Prescription of Anabolic Steroids. *International Journal of Drug Policy*, 1, 15-18.
- Miller, K. E., Barnes, G. M., Sabo, D. F., Melnick, M. J., & Farrell, M. P. (2002). Androgenic-anabolic steroid use and other adolescent problem behaviours: rethinking the male athlete assumption. *Sociological Perspectives*, 45(4), 467-489.
- Monaghan, L. F. (1999). Challenging medicine? Bodybuilding, drugs and risk. *Sociology of Health and Illness*, 21(6), 707-734.
- Monaghan, L. F. (2002a). Hard men, shop boys and others: embodying competence in a masculinist occupation. *The Editorial Board of the Sociological Review*, 334-355.
- Monaghan, L. F. (2002b). Regulating 'unruly' bodies: work tasks, conflict and violence in Britain's night-time economy. *British Journal of Sociology*, 53(3), 403-429.
- Monaghan, L. F. (2002c). Vocabularies of motive for illicit steroid use among bodybuilders. *Social Science and Medicine*, 55, 695-708.
- Mugford, S. (1995). *Development of anabolic steroids (and other anabolic substances) use indicators in Australia: final report* (No. Report No.2). Canberra ACT: Commonwealth of Australia: National Drug Strategy.
- Olivardia, R., Pope, H. G. J., Borowiecki III, J. J., & Cohane, G. H. (2004). Biceps and body image: the relationship between muscularity and self-esteem, depression, and eating disorder symptoms. *Psychology of Men and Masculinity*, 5(2), 112-120.
- Olivardia, R., Pope, H. G. J., & Hudson, J. I. (2000). Muscle dysmorphia in male weightlifters: a case-control study. *American Journal of Psychiatry*, 157(8), 1291-1296.
- O'Sullivan, A. J., Kennedy, M. C., Casey, J. H., Day, R. O., Corrigan, B., & Wodak, A. (2000). Anabolic-androgenic steroids: medical assessment of past, present and potential users. *Medical Journal of Australia*, 173, 323-327.
- Parliament of the Commonwealth of Australia. (1989). *Drugs in Sport. An interim report of the Senate Standing Committee on Environment, Recreation and the Arts*. Canberra: Parliament of the Commonwealth of Australia.

- Parliament of the Commonwealth of Australia. (1990). *Drugs in Sport. Second Report of the Senate Standing Committee on Environment, Recreation and the Arts*. Canberra: Parliament of the Commonwealth of Australia.
- Pedersen, W., Wichstrom, L., & Blekesaune, M. (2001). Violent behaviours, violent victimisation, and doping agents: a normal population study of adolescents. *Journal of Interpersonal Violence, 16*(8), 808-832.
- Peixoto Labre, M. (2002). Adolescent boys and the muscular male body ideal. *Journal of Adolescent Health*(30), 233-242.
- Peters, R., Copeland, J., & Dillon, P. (1999). Anabolic-androgenic steroids: user characteristics, motivations and deterrents. *Psychology of Addictive Behaviours, 13*(3), 232-242.
- Peters, R., Copeland, J., Dillon, P., & Beel, A. (1997). *Patterns and correlates of androabolic-androgenic steroid use*. Sydney, Australia: National Drug and Alcohol Research Centre.
- Plowright, S. (1993). *Harm Minimisation and Anabolic Steroids: Results and Recommendations of the DRIC Injecting Steroid User Survey* (No. ISBN Number: 0 646 14916 4). Canberra, ACT: Commonwealth Department of Health, Housing, Local Government and Community Services.
- Pope, H. G., Kouri, E. M., & Hudson, J. I. (2000). Effects of supraphysiological doses of testosterone on mood and aggression in normal men. *Arch Gen Psychiatry, 57*, 133-140.
- Pope, H. G. J., Gruber, A. J., Mangweth, B., Bureau, B., deCol, C., Jouvent, R., et al. (2000). Body image perception among men in three countries. *American Journal of Psychiatry, 157*(8), 1297-1301.
- Riem, K. E., & Hursey, K. G. (1995). Using anabolic-androgenic steroids to enhance physique and performance: effects on mood and behaviour. *Clinical Psychology Review, 15*(3), 235-256.
- Schwerin, M. J., Corcoran, K. J., Fisher, L., Patterson, D., Askew, W., Olrich, T., et al. (1996). Social physique anxiety, body esteem, and social anxiety in body builders and self-reported anabolic-steroid users. *Addictive Behaviours, 21*(1), 1-8.
- Shahidi, N. T. (2001). A review of the chemistry, biological action and clinical applications of anabolic-androgenic steroids. *Clinical Therapeutics, 23*(9), 1355-1390.
- Shapiro, H. (1994). The pound is strong, inflation is up: a future market for anabolic steroids? *The International Journal of Drug Policy, 5*(1), 11-14.
- Thiblin, I. (1999). *Anabolic androgenic steroids and violence: a medicolegal and experimental study*. Stockholm: Karolinska Institute, Institution of Oncology-Pathology, Department of Forensic Medicine.
- Thomson, R. P. M. (1999). Anabolic steroids: teenage males and targeted prevention. *The Journal of Performance Enhancing Drugs, 2*(3), 16-17.
- Wichstrom, L., & Pedersen, W. (2001). Use of anabolic-androgenic steroids in adolescence: winning, looking good or being bad? *Journal of Studies on Alcohol, 62*(1), 5-13.
- Wood, R. (2004). Reinforcing aspects of androgens. *Physiology and Behaviour, 83*(2004).
- Wright, S., Grogan, S., & Hunter, G. (2000). Motivations for anabolic steroid use among bodybuilders. *Journal of Health Psychology, 5*(4), 566-571.
- Wroblewska, A. M. (1997). Androgenic-anabolic steroids and body dysmorphia in young men. *Journal of Psychosomatic Research, 42*(3), 225-234.

SECTION 7 APPENDICES

Appendix One: Recruitment Strategy

STREETWIZE COMMUNICATIONS TWO STAGE RECRUITMENT STRATEGY

In developing a recruitment strategy, Streetwize were made aware of substantial obstacles to recruitment from NDARC's 2005 Rapid Assessment, the advice of key experts and Streetwize's own research and knowledge of the target groups. Acknowledged obstacles include (but may not be limited to):

- the illegal nature of the substances and issues of anonymity
- the weather – undertaking the survey during winter which is considered 'downtime' for most users
- privacy and secrecy around image-enhancement
- the high income of users i.e. for most \$50 is not an incentive
- the strict eligibility requirements (i.e. participants must have used regularly in the past 12 months)
- identifying in one of the three categories
- turning up for a face-to-face interview and
- occupational users are acknowledged as a very reluctant participant group.

- For these reasons, Streetwize undertook a two stage multi-faceted recruitment drive incorporating the use of :
 - - o Print Advertisements
 - o Articles
 - o Business Cards
 - o Posters and Flyers
 - o In-person Recruitment and
 - o Online.

Through

- Community Radio
- NSPs
- University sites
- Gymnasiums
- Health food outlets
- Supermarkets
- TAFE notice boards

For confidentiality reasons names of venues and outlets are not included in the list above. More detailed information about locations can be obtained from DASSA..

Appendix Two: Streetwise Interviewer Training

RECRUITMENT PROCEDURE UNDERTAKEN FOR INTERVIEWERS

- a. Interviewers had to respond to a written 'Expression of Interest' showing demonstrated knowledge in qualitative interviewing
- b. Phone interviews took place
- c. References were checked
- d. Working with Children Check forms were completed
- e. Interviewees had to attend the Streetwise Training 2-day in Sydney NSW
- f. All interviewees signed a contract that outlined roles and responsibilities of the project – this included signing a declaration that they had read important documents of the project, particularly the ethics document.

TWO DAY TRAINING PROCESS FOR INTERVIEWERS AT STREETWISE COMMUNICATIONS

30/31 March 2006

Overview on Streetwise Communications

Briefing: Streetwise Project Manager and Project Officer.

- Contractor position – roles & responsibilities
- Ethics
- Procedures and protocols agreed to ensure:
 - Privacy
 - Safety

PIEDs project in detail

Training: Cath-Finney Lamb of NDARC.

- Some experiences from researchers
 - Lessons learnt from Streetwise Consultants
 - Kay Stanton and PIEDs / steroids training
 - Target group not so responsive to research
- Time Management
 - Timelines
- Staying motivated
 - Brainstorming on recruitment by interviewers
 - Where people can post information
 - NSPs
- Being prepared
 - Equipment
 - Mock interviews/practicing questions/anything we have missed?

Appendix Three: Target Group Interview Schedule

Performance and Image Enhancing Drugs (PIEDs) Qualitative Interview

SECTION 1: User Qualitative Interview

Question One

- I'm interested in the way people use anabolic steroids and other related image or performance enhancing products in their daily routines and lives. Can you tell me about why you chose to use these products and what was happening in your life that related to that decision?
- Initial motivations for use.
- Focus on the most recent episode. This may cover issues such as: Peer influence including friends, work, team-mates use, hitting a training wall, Sport's goals.
- How important is body image to you? Relationship between PIEDs use and ideas about the 'ideal' body?
- Relationship between PIEDs use and other people in your life (partner, friends, other PIEDS users, work colleagues, etc.)

Occupational User Additional Prompts

- Is any relationship between the use of AAS and particular lines of work, for example security industry of armed forces? Weight training, body builder, competitive athlete user, (bouncer, police, prison officer, fire-fighter etc)?
- Is there anything about your work that prevents you from stopping your use of anabolic steroids and other related products?

Question Two

- We often hear people talking about the risks and harms associated with the use of anabolic steroids and other related products. Can you tell me a bit about what you perceive to be risky or harmful about using these products?

Health

- Which risks and harms are you most concerned about?
- Why are these most relevant to you?
- Health and well-being issues - BBV's such as HIV, Hep B, Hep C etc. Also physical effects, testes, breasts, hair etc.
- Is there anything that would help you manage these risks and harms?
- Do you have any other concerns for yourself or others?
- How do you balance the positive gains with the potential negatives of long-term use?

Wellbeing

- How do you see your use of anabolic steroids and other related products in the long term?
- Would you ever think about stopping? What would make you want to? What kinds of things could make it difficult to stop?

What are your experiences of accessing health care services?

- Needle exchanges? General practitioners?
- Problems in using these services?
- What medical services you have used for treatment with anabolic steroids and other related drug related issues?
- Is there any other support strategies would you like to have in place?

Question three

- I'm interested in the kinds of information that is available on the use of anabolic steroids and other related products. Could you tell me about the kinds of information you have accessed and what information you would like to be available?
- Where do you get your information?
- Is there enough information about the specific effects of anabolic steroids and other related products?
- Is there any information that you wished you'd had - information that would have made a difference to your decision to start using anabolic steroids and other related products?
- Is there anything that you wish you had known before you started?
- What sort of information do you think could be useful to anabolic steroids and other related drug users?
- What would be the best way of distributing that information?

Question Four

- We have covered a fair bit in this interview, is there anything else you would like us to know before we go on to fill out the questionnaire section (demographics)?

Performance and Image Enhancing Drugs Study User Demographic Questionnaire

SECTION 2: (self-report or interviewer can complete with participant)

1. Sex:

Male..... 0
 Female..... 1
 Transgender..... 2

2. Age: _____ (years)

3. What is the main language you speak at home?

English..... 1
 Other..... 2 (please specify below)
 Specify _____

4. Are you of Aboriginal and/or Torres Strait Islander origin?

Aboriginal, but not Torres Strait Islander origin..... 1
 Torres Strait Islander, but not Aboriginal origin..... 2
 Both Aboriginal and Torres Strait Islander origin..... 3
 Neither Aboriginal nor Torres Strait Islander origin..... 4
 Not stated stated/inadequately described..... 5

Living arrangements

5. What type of accommodation do you *currently* live in?

Own house/flat..... 1
 Rented house/flat..... 2
 Parents'/family house..... 3
 Boarding house/hostel..... 4
 Shelter/refuge..... 5
 Drug treatment residence/centre... .. 6
 No fixed address/homeless..... 7
 Other accommodation..... 8 (please specify below)
 Specify _____

Education and employment

6. What is the highest level of education that you have completed?

Secondary school – year 9 or under..... 1
 Secondary school – year 10..... 2
 Secondary school – year 11..... 3
 Secondary school – year 12..... 4
 Trade/ technical certificate (apprenticeship)..... 5
 University..... 6
 Other..... 7 (please specify below)
 Specify _____

7. Are you employed at the moment? (mark only one)

Not employed..... 1 (go to question 9)
 Employed full time..... 2
 Employed part time/casual..... 3

- Full time student.....4
- Part-time student.....5
- Home duties6
- Other7 (please specify below)
- Specify_____

8. What is your present occupation?

- Professional1
- Manager2
- Self-employed.....3
- Clerical worker4
- Armed services, police5
- Security industry6
- Operative & process worker7
- Driver8
- Hospitality industry9
- Miner10
- Labourer11
- Other.....12 (please specify below)
- Specify_____

Sexual identity and relationships:

9. Which of the following best describes your sexual identity?

- Heterosexual.....1
- Gay male.....2
- Lesbian.....3
- Bisexual.....4
- Other5 (please specify below)
- Specify_____

10. Are you currently in a relationship?

- In a relationship living together1
- In a relationship not living together2
- Not in a relationship.....3

Substances used and frequency/pattern of use

11. How old were you when you first used performance and image enhancing products?

Specify (in years) _____

12. How long have you been using these products on a regular basis?

Specify _____ months/years (please circle)

13. What kind of performance and image enhancing products have you used in the past 12 months?

- Human anabolic steroids.....1
- Veterinary anabolic steroids.....2
- Both.....3
- Other4 (please specify below)
- Specify_____

14. Have you injected any performance or image enhancing products in the last 12 months?

No.....0

Yes..... 1 Please specify type(s) of product(s) below
Specify_____

15. Have you injected any OTHER drugs in the last 12 months?

No..... 0
Yes..... 1 Please specify type(s) of product(s) below
Specify_____

16. If you have injected ANY substances in the last 12 months have you ever shared needles or any other equipment with another person?

No..... 0
Yes..... 1

Thank you for your time. If you have any questions please feel free to ask the Interviewer or call one of the telephone numbers that appear on your information sheet.

Appendix Four: Key Informant Qualitative Interview Schedule

**Performance and Image Enhancing Drugs Study
Key Expert Demographic Questionnaire**

SECTION 2: (self-report or interviewer can complete with participant)

1. Sex:
Male.....0
Female1
Transgender2

2. How old are you? _____ Years

3. What is the main language you speak at home?
English.....1
Other2 (please specify below)
Specify _____

4. Are you of Aboriginal and/or Torres Strait Islander origin?
Aboriginal, but not Torres Strait Islander origin..... 1
Torres Strait Islander, but not Aboriginal origin..... 2
Both Aboriginal and Torres Strait Islander origin..... 3
Neither Aboriginal or Torres Strait Islander origin..... 4
Not stated stated/inadequately described..... 5

Living arrangements

5. What type of accommodation do you *currently* live in?
Own house/flat.....1
Rented house/flat.....2
Parents'/family house.....3
Boarding house/hostel.....4
Shelter/refuge.....5
Drug treatment residence/centre.....6
No fixed address/homeless.....7
Other accommodation.....8 (please specify below)
Specify _____

Education and Employment

6. What is the highest level of education that you have completed?
Secondary school – year 9 or under.....1
Secondary school – year 10.....2
Secondary school – year 11.....3
Secondary school – year 12.....4
Trade/ technical certificate (apprenticeship).....5
University.....6
Other.....7 (please specify below)
Specify _____

7. What is your current employment status? (mark only one)

- Not employed..... 1 (go to question 10)
- Employed full time 2
- Employed part time/casual 3
- Part time student..... 4
- Full time student 5
- Home duties..... 6
- Volunteer 7 (go to question 9)
- Other 8 (please specify below)
- Specify_____

8. What sort of work do you do? (circle the main type only)

- Gym instructor/ fitness trainer..... 1
- Gym owner 2
- Security industry worker 3
- General health worker 4
- Needle exchange worker 5
- Medical Practitioner 6
- Youth worker..... 7
- Pharmacists 8
- Other 9
- Specify_____

9. Do you work with any special populations? (can mark more than one)

- No 0
- Young people..... 1
- ATSI (other CALD communities) 2
- Injecting drug users 3
- Prisoners..... 4
- Women 5
- Gay community 6
- Security Industry 7
- Other 8 (please specify below)
- Specify_____

Substance Use

10. How many people, who use products to enhance image or performance, have you had contact with in the last 12 months?

No of people_____

11. How many occasions (ON AVERAGE) would you have you had contact with each of those individuals in the last 12 months?

No of occasions per individual _____

12. What **substances** have these people used in the past six months? (circle as many as apply)

- AAS..... 1
- Oestrogen antagonists 2
- Beta blockers 3
- Diuretics 4
- HCG 5
- hGH 6
- Stimulants (ephedrine, caffeine, etc)..... 7
- Thyroxine 8
- Insulin /IGF 1/ Daonil 9

Aminoglutethimide.....10
EPO.....11
Other12 (please specify below)
Specify_____

13. What methods do the majority of people you have contact with use to administer these drugs?

Inject..... 1
Oral form 2
Both 3

Appendix Five: List of Substances mentioned by PIEDs users

The substances listed in the table below were those mentioned by PIEDs users (some of these substances were mentioned more than once)

AAS, (oral & injections) Aldactone, Ananthate, Ananth 250, Anabolic Human	Boldenone Boldebal H,	Creatine, Creatine supplements
Deca-durabolin, Deca (50+100), Deca 200 Deca Dianabol	Enanthate, Estrogen, Estradol Patches EQ,	Filybol
HCG/HGH, hgH T3 hgH hgH, synthetic	Insulin	Metadel
Nandrolone	Provera, Primobolan Primogyn Depot Probanate Proprianatel Sypionate,	Stanzol Sustenon Sustenon 250, Sypionate Stanzol - doctor prescribed
Testosterone, Testosterone T4, D3 Testosterone 400 Test Prop, EQ Test. E.C.M, Trembalone Testomet, Tanazol Testosterone enanthate Testosterone cypionate Trinabol, Tribolin 75, Trimbolan,	Winstrol	

Appendix Six: Key informants - Specific Occupations

	n (%)
General health worker (4) Needle Exchange worker (5)	9 (37.5)
Academic	1 (4.2)
Community Development Worker	1 (4.2)
Community and peer work	1 (4.2)
Health Education Officer	1 (4.2)
Health Educator NSP	1 (4.2)
Health Educator Officer - Sex Industry	1 (4.2)
Health Educator Psychotherapy	1 (4.2)
Lecturer drug and alcohol - needle exchange worker	1 (4.2)
Manager - Health Services	1 (4.2)
Manager	1 (4.2)
Police Education officer	1 (4.2)
Prison Project Officer	1 (4.2)
Project Officer	1 (4.2)
Researcher	2 (8.3)
Total	24 (100)