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Contemporary Health Monitoring and Promoting Behaviors Among Consumers of Anabolic-Androgenic Steroids

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Abstract

Aims: The aim of the study was to explore how people who use anabolic-androgenic steroids (AAS) self-monitor their health and navigate barriers related to stigma, legality, and access to care.

Design: A qualitative exploratory study using a critical health promotion framework to understand the self-directed health monitoring practices of AAS consumers.

Methods: Semi-structured interviews were conducted with 25 current AAS consumers in Australia (M_{age} = 35.9 years; 20 men, 5 women). Data were analyzed inductively using thematic analysis. Themes were developed through reflexive and collaborative coding between researchers with lived and professional experience in AAS-related harm reduction.

Results: Participants described proactive and structured health monitoring practices—regular blood testing, cardiovascular checks, and blood pressure monitoring—as key to "responsible use." However, stigma from healthcare professionals, financial burden, and fear of legal consequences created substantial barriers to care. Many participants sought alternative, nonjudgmental services or private testing to maintain health surveillance. Despite limited support, participants demonstrated strong health literacy, self-efficacy, and motivation to reduce harm.

Conclusion: AAS consumers actively engage in self-directed health monitoring but face systemic exclusion from mainstream healthcare. These findings underscore the need for inclusive, non-judgmental, and collaborative models of care. Nurses in addiction, community, and primary healthcare settings are ideally placed to bridge this gap through harm-reduction-focused, person-centered practice that acknowledges client expertise, and promotes safer engagement with health services.

Keywords: anabolic-androgenic steroids, harm reduction, health monitoring, health promotion, image and performance-enhancing drugs, nursing

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INTRODUCTION

The use of anabolic-androgenic steroids (AAS) and other image and performance-enhancing drugs (IPEDs) is a growing global public health concern (Piatkowski, Gibbs, et al., 2024), particularly among those seeking aesthetic, strength, or performance outcomes outside traditional sport (Santos & Coomber, 2017). Despite media and policy attention (van de Ven & Fomiatti, 2024), health systems remain poorly equipped to engage with the proactive, self-monitoring practices of users. This represents a crucial gap not only for public health systems but also for addiction and community nursing practice, where nurses often serve as the first point of contact for individuals presenting with IPED-related concerns (Atkinson et al., 2021; Harvey et al., 2019; Siegmund, 2022). These populations frequently encounter moralizing

responses, stigma, and legal barriers when accessing healthcare (Cox et al., 2024; McVeigh & Bates, 2022; Piatkowski, Benn, et al., 2024; Piatkowski, Gibbs, et al., 2024), exposing the limitations of conventional health promotion strategies that neglect lived-living experience (Nourse, Fraser, et al., 2024). Consequently, AAS consumers often avoid healthcare, heightening preventable harms. From a nursing perspective, understanding these dynamics is critical to developing compassionate, non-judgmental care models that meet clients where they are and reduce barriers to engagement (Abees & Mohammed, 2020; Harvey et al., 2019; Siegmund, 2022). Therefore, this study explores how people who use AAS manage their health independently and how stigma and exclusion shape their access to care.

A growing body of research indicates that people who use AAS often engage in self-management of their health (Turnock et al., 2023). This type of health management falls outside of traditional government-led services, such as needle and syringe programs (Kimergård & McVeigh, 2014), yet increasingly overlaps with areas of nursing interest such as harm reduction, patient education, and health promotion (Gallegos, 2023; Siegmund, 2022). Within these spaces, community members draw upon their *chemical capital* to manage health risks through forms of "private" harm reduction (Turnock et al., 2023). AAS consumers actively monitor their health by conducting blood pressure checks and blood tests to assess physiological changes associated with use (Piatkowski & Dunn, 2024; Piatkowski, Cox, Gibbs, et al., 2024). This organic, peer-led health management arises from longstanding inadequacies in national and international AAS harm reduction responses, with experienced users providing knowledge and advice gained through lived practice. These informal practices demonstrate a form of lay expertise that addiction nurses can acknowledge and integrate into therapeutic dialogue to promote safer use and trust-building (Atkinson et al., 2021; Siegmund, 2022).

Despite these developments, many people who use AAS continue to face barriers to healthcare that meet their needs, including stigma from professionals (Cox et al., 2024; McVeigh & Bates, 2022), legal concerns (Piatkowski, Gibbs, et al., 2024), and economic constraints (Piatkowski, Vigorous, et al., 2024). Limited AAS-related knowledge and training among healthcare professionals (Hill & Waring, 2019) further reinforce community reluctance to engage with formal health services. This lack of AAS-specific knowledge within nursing and allied health training further limits nurses' confidence to provide appropriate assessment, education, and referral (Abees & Mohammed, 2020; Gallegos, 2023; Siegmund, 2022). Moreover, government-led responses have traditionally focused on AAS consumers who inject, overlooking those who use oral preparations. This omission—linked to routes of administration—has produced health inequalities and distinct harms (van de Ven, Zahnow, et al., 2020). Consequently, people who use AAS are often excluded from conventional healthcare systems (Fraser et al., 2020; Seear et al., 2020), which neglect their health agency and perpetuate stigma through moralizing messages rather than genuine harm reduction (Coomber, 2014). Considering these points together, nursing-based health promotion, grounded in person-centered and strengths-based care, may offer a pathway to re-engage these clients through trust and rapport rather than deterrence (Atkinson et al., 2021).

Moreover, public health interventions discouraging AAS use often emphasize individual behavior change (Amaral et al., 2022; Petróczi et al., 2014), offering limited strategies for those already using these substances. This limited engagement with the lived realities of people who use AAS has produced persistent gaps in healthcare access and support for individuals seeking to balance enhancement goals with health preservation. Rather than framing AAS use as inherently problematic or portraying users as moral deviants, a more nuanced, autonomy-oriented approach is required—one that recognizes proactive self-monitoring efforts while addressing systemic barriers to care (Mulrooney et al., 2019). For nurses working in addiction or primary care settings, this nuanced understanding supports the provision of non-judgmental, evidence-informed care that empowers clients to manage risk and sustain engagement with services (Abees & Mohammed, 2020; Atkinson et al., 2021; Gallegos, 2023). This research seeks to fill this gap by exploring how people who use AAS navigate healthcare and health monitoring, while also grappling with the stigma and structural exclusion that limit their ability to access appropriate support. Although the data were collected in Australia, the patterns of stigma, health self-management, and service exclusion identified here have global relevance for addiction nursing practice (Abees & Mohammed, 2020; Atkinson et al., 2021).

Conceptual Framework

This study adopts a critical health promotion framework to examine how people who use AAS manage their health. This lens critiques traditional health promotion by addressing the structural, social, and political determinants of health (Baum & Fisher, 2014; Labonte, 1994). Unlike mainstream models that emphasize individual responsibility and behavior change, critical health promotion situates health behaviors within broader contexts of power, stigma, and marginalization (Baum & Fisher, 2014; Labonte, 1994). AAS use is typically framed as a public health risk behavior (Bates et al., 2022; McVeigh et al., 2021), and most interventions focus on discouraging use or reducing harm (Atkinson et al., 2021; van de Ven et al., 2022; van de Ven, Eu, et al., 2020). However, such approaches overlook the complex realities of AAS consumers, many of whom pursue health enhancement while simultaneously working to minimize risk.

By adopting a critical lens, this research highlights the importance of co-produced perspectives in health promotion—that is, the engagement and inclusion of individuals

with lived-living experience of AAS use within harm reduction and nursing-based care models (Prentice et al., 2021)—and calls for the creation of more inclusive and responsive health services rooted in values such as autonomy and collaboration. Structural determinants such as stigma in healthcare (Cox et al., 2024), the criminalization of AAS use (Piatkowski, Gibbs, et al., 2024), and the lack of accessible and non-judgmental care (Piatkowski, Coomber, et al., 2025) are identified as critical factors that shape the health practices of people who use AAS. These factors underscore the need for health systems to embrace more equitable health promotion interventions that resonate with community and align with nursing values of advocacy, empathy, and person-centerd practice.

Participatory health promotion, a central concept within critical health promotion (Harting et al., 2022; Labonte et al., 2005), recognizes that people are not passive recipients of health information but active agents in shaping their own health outcomes. This study thus centers the voices of people who use AAS, who possess important, rich, and insightful knowledge—garnered and learnt through doing—and explores how they navigate healthcare systems, monitor their health, and adapt their practices to reduce harm. For addiction nurses, this participatory perspective provides an opportunity to reframe clinical encounters as partnerships, acknowledging client expertise and fostering shared decision-making (Abees & Mohammed, 2020). By engaging with these practices, the research challenges dominant narratives that frame people who use AAS as irresponsible or uninformed, offering instead a more nuanced understanding of their health practices. Such insight is essential to developing nursing-led interventions that reduce stigma and enhance engagement with care across diverse health systems (Abees & Mohammed, 2020; Atkinson et al., 2021).

METHODS

Design and Ethics

This was an exploratory pilot study. Ethical approval was granted from the Griffith University Human Research Ethics Committee (Approval: 2023/784). The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and adhered to best-practice qualitative standards in nursing and public health research, including voluntary participation, confidentiality, and informed consent.

Sampling and Recruitment

This study draws on qualitative interviews with 25 Australian adults who consume AAS, recruited as part of a broader two-phase harm reduction trial involving chemical testing of AAS samples (see Piatkowski, Coomber, et al., (2025) for full methodology). Participants (M_{age} = 35.9, 20 male, 5 female) were recruited through community networks, including The Loop Australia, Queensland Injectors Health Network, and Queensland Injectors Voice for Advocacy and Action, as well as social media, word-of-mouth, and snowballing. Most participants were actively using one or two AAS compounds and sourced them through a mix of licit and illicit channels. Informed consent was obtained verbally following the provision of detailed information sheets outlining study aims, procedures, and confidentiality safeguards. This approach aligns with inclusive recruitment practices in addiction nursing research, emphasizing accessibility and participant trust, particularly for stigmatized or hard-to-reach groups (Atkinson et al., 2021; Prentice et al., 2021).

Data Collection

Semi-structured interviews were conducted with 25 participants to explore their perceptions of AAS-related risks and their strategies to mitigate these risks and monitor their health. Interviews were carried out via a digital platform (e.g., Zoom and Microsoft Teams) and recorded with participants' consent. The research team collaboratively designed the interview questions with the AAS-using community to elicit detailed responses. This codesign process occurred through a series of informal consultations and structured feedback sessions, where draft questions were reviewed by individuals with lived-living experience. Feedback was integrated iteratively to ensure that the questions reflected both community concerns and the nuances of real-world AAS use. The collaborative development of research questions occurred through a process of reflective group discussions, where the authors drew upon a range of expertise, including lived-living experience, scientific literature, and bro-science, to shape and generate collectively informed questions. Participants were asked about the perceived benefits they gain from using AAS ("What benefits do you believe you gain from using AAS?") and the seriousness of potential health risks ("How serious do you consider the potential health risks associated with using AAS? Can you provide specific concerns?"). To further explore their perceptions of risk, participants were asked, "Do you believe you are at risk of experiencing negative health effects from using anabolic-androgenic steroids (AAS)? Why or why not?." These questions were part of a broader semi-structured interview guide, which also explored themes such as health monitoring practices, decision-making influences, and strategies to mitigate perceived risks. The three items quoted here serve as illustrative examples of the types of questions used. This participatory and co-designed approach reflects core nursing research principles, collaboration, respect for lived experience, and empowerment of participants to share their expertise in shaping health knowledge (Atkinson et al., 2021; Prentice et al., 2021).

Data Analysis

The data were analyzed using an inductive thematic analysis approach (Braun & Clarke, 2006). T. P., a researcher with lived-living experience of IPED use, reflected on his positionality in relation to the research, engaging in discussion

with the research team and their outsider positionalities (Piatkowski, Coomber, et al., 2025). Drawing upon this elevated positional knowledge, T. P. was able to generate a deeper understanding and insight through the data analysis process. The data were systematically analyzed through line-by-line coding to identify recurring theme-categories. This iterative process allowed for an exploration of participants' views on the benefits and risks of AAS use and their health monitoring and protection behaviors.

This study was conducted by a team with diverse positionalities. T. P., K. W., and T. O. are researchers with lived-living experience of AAS use, bringing insider insight to the design and data interpretation. Integrating researchers with lived or living experience of the research problem into the design and analysis process enriches the study with unique, contextually grounded insights that may otherwise be overlooked. Their experiential knowledge can enhance the relevance, sensitivity, and authenticity of research questions, methodologies, and interpretations. From a nursing perspective, this reflexive and inclusive analytic approach mirrors the principles of reflective practice and person-centerd care, hallmarks of nursing inquiry that emphasize empathy, respect, and situational understanding (Atkinson et al., 2021; Prentice et al., 2021).

This inclusive approach helps to bridge the gap between theory and practice, fosters greater trust with participant communities, and promotes more ethical and impactful outcomes. Ultimately, it supports the coproduction of knowledge that is both academically rigorous and socially meaningful. The importance of this approach is further underscored by the fact that this population is notoriously difficult to reach due to stigma and misguided perceptions and framing of drug use by the media. This novel and inclusive approach, therefore, should be understood as a core strength of the study. Their perspectives were complemented by team members without direct experience of AAS use (e.g., B. B., S. C., L. C., and K. T. G.), offering critical distance and supporting reflexive dialogue throughout the process. This mix of insider and outsider positions strengthened the analysis by allowing for layered interpretations of the data.

The analysis was conducted using NVivo (v12), combining both inductive and deductive approaches. Line-by-line coding was initially performed to generate open codes, guided by the study's critical health promotion framework. T. P. led the first round of coding, drawing on lived-living experience to identify salient patterns. These codes were then organized through iterative categorization into higher order concepts, refined collaboratively by the research team. This reflexive process enabled the team to examine both surface-level and latent themes and to capture the structural, behavioral, and emotional dimensions of participants' health management strategies. The methodological transparency and reflexivity adopted here align with qualitative standards for nursing research, ensuring trustworthiness and credibility of findings (Atkinson et al., 2021; Prentice et al., 2021).

We present these in the subsequent section, organized under two broad theme categories. The first theme category was proactive health management, whereby regular monitoring of blood work, liver function, blood pressure, and cholesterol, was emphasized to minimize risks and maintain health. The second theme category was challenges and concerns regarding monitoring, whereby participants highlighted barriers such as stigma, cost, and the difficulty of accessing non-judgmental healthcare.

RESULTS

Twenty-five participants (M_{age} = 35.9 years, 20 male, 5 female) took part in sem-istructured interviews, which lasted a median of 50 minutes (range: 30–77 minutes). All participants were current consumers of AAS. Most reported using either one (n = 8) or two (n = 10) types of AAS. AAS were obtained through a mix of licit and illicit sources, including community networks (n = 13), online markets (n = 11), and a combination of prescription access and community channels (n = 5). Focusing exclusively on current users enabled the study to capture real-time practices, risks, and self-monitoring behaviors that may differ significantly from retrospective accounts given by former users. See Table 1 for full breakdown of participant demography.

Proactive Health Management

Many participants highlighted a meticulous approach to AAS use, ensuring proper dosing. This shows an active commitment to minimizing potential health risks by adhering to a well-monitored regimen. All participant names are pseudonyms to protect anonymity.

> Cormac [39, male]: Exactly. Yeah. I'm not just jabbing [injecting] away and that's it. I'm making sure that I'm doing it right, doing the right levels [dosage], making sure that like it, everything ticks the boxes.

Participants had awareness of the health implications of their AAS use, with many understanding that there were consequences to organ health, particularly cardiovascular and liver risks. They actively monitored liver function and cholesterol and adjusted their androgen use accordingly to mitigate long-term health effects.

> Ciara [44, female]: Mine [main health concern] is more my liver and my blood pressure and my cholesterol. So, those are things that I keep very close monitoring on... after this competition and going off [off-cycle], then I'm going to not do any more steroids for quite a while because I need to get my weight right back down... for my cholesterol and my heart health, just to make sure that that's under control.

Many participants had incorporated these health monitoring strategies into their daily routines. For instance, some

TABLE 1 Participant (*n* = 25) Information Pertaining to Their Pseudonym Name, Age, Gender, and Number of Compounds Currently Being Consumed

Participant	Pseudonym	Age	Gender	*N*, Current Compounds
1	Bode	29	Male	3
2	Larry	45	Male	1
3	Celina	28	Female	2
4	Jaxx	37	Male	1
5	Tori	44	Female	2
6	Frankie	40	Male	2
7	Brennan	41	Male	2
8	Heath	32	Male	1
9	Ollie	31	Male	1
10	Cormac	39	Male	2
11	Trent	32	Male	3
12	Ciara	44	Female	1
13	Viktor	39	Male	3
14	Harley	27	Male	1
15	Kreed	28	Male	1
16	Markus	37	Male	2
17	Marceline	45	Female	4
18	Yana	33	Female	5
19	Monte	34	Male	1
20	Cole	31	Male	4
21	Quintin	40	Male	1
22	Wallace	49	Male	2
23	Kase	22	Male	2
24	Cedric	28	Male	2
25	Edmund	41	Male	2

participants spoke of blood pressure checks and cardiovascular health checks, which underscores a diligent approach to monitoring health. The proactive use of objective measurement through medical testing helps them to alleviate concerns about the long-term effects of AAS use.

> Viktor [39, male]: I'll do [test] my blood pressure every day. Make sure I'm getting enough nutrients in and standard sort of stuff. I mean, I have had ECGs and stress tests like hard stress tests and stuff, as well. They've come back fine.

Building on this, many participants articulated the importance of regular and comprehensive testing for what they believe to represent "responsible use" of AAS, noting that consistent monitoring of internal health markers is key to managing risks effectively. This highlights a methodical, data-driven approach to usage.

> Quintin [40, male]: Yeah, and these guys [the testing service I use] are pretty good every couple of months, they issue you tests. So, they check your liver, kidney, all your bloods, blood pressure and make sure everything's on track... So, it's kind of it's done intelligently, not just, you know, rolling the dice. Good luck.

Across interviews, participants emphasized the critical role of blood tests in monitoring their health when using AAS. For many, blood testing acts as an experimental feedback loop, allowing them to understand individual reactions to substances.

> Bode [29, male]: There is some level of experimentation [with AAS use] and understanding how much works for an individual, and that's where blood tests are really important... I think people need to check their bloods a minimum of, you know, two blood tests a year for someone using [AAS] is a good number to go by.

Regular blood testing is framed as a key strategy to mitigate risks associated with AAS use, often conducted at specific intervals before, during, and after cycles.

> Harley [27, male]: I get my blood's [tests] done before a cycle [of AAS], during a cycle, and after a cycle.
> Cole [31, male]: I just get blood tests quarterly. See where everything's at. Just make sure I'm not dying.

Blood tests allow people using AAS to adjust dosages and track side effects, with a few noting how changes in their blood work have influenced critical health decisions.

Challenges and Concerns Regarding Monitoring

Participants not only stressed the importance of health testing but also highlighted barriers to accessing these services, such as stigma and financial limitations. Despite these challenges, many found ways to ensure ongoing monitoring, either through private services or by working around financial constraints. Many participants pointed out the stigma and judgment that many people who use AAS face from healthcare professionals, which actually leads to avoidance of objective health marker testing. This contributes to a lack of health monitoring and increases the risk of negative outcomes. For addiction and community nurses, such avoidance behavior illustrates how perceived judgment can directly undermine engagement, reinforcing the importance of trust-building and empathetic communication.

> Cedric [28, male]: A lot of people don't get their bloods [blood test and analysis] done because they go to a doctor and just get interrogated and judged and stuff. So, a lot of people aren't doing that.

Several participants pointed out that the stigma was interlinked to legal concerns associated with AAS use. These intersections between healthcare structures and overarching policy systems can deter participants from being open with healthcare providers. Participants reported this was a significant barrier to accessing professional monitoring, potentially compromising their safety. Nursing professionals, particularly those in primary and addiction care, are uniquely positioned to mitigate these fears through confidentiality assurance and advocacy for safe, stigma-free services.

> Monte [34, male]: The problem is, there's also the risk that if you put that stuff, if you're talking to your GP about it [AAS], they keep notes about it. Like 'cause, it is illegal, so they have evidence of you doing something illegal... It does happen.

Participants revealed economic tension between managing AAS use and the costs of health monitoring. The participants underscore the necessity of financial commitment to both AAS use and health testing, critiquing peers who neglect monitoring due to financial constraints.

> Yana [33, female]: But if you don't want to pay for that, like, if you can't afford to pay for that, then why would you be wasting your money on this then? It's just not worth it. It's either do both or don't do either.

Participants commonly found that systemic barriers, including the stigma they faced in the healthcare system and the financial cost of blood tests, were significant obstacles to achieving optimal health monitoring. Some resorted to alternative, private services to bypass these barriers, while others critiqued the choices of peers who neglected regular health checks. Despite these challenges, most participants felt that health testing was indispensable to mitigating the risks of AAS use. For nurses, these findings highlight opportunities for harm-reduction-oriented interventions that normalize regular health checks and assist clients in navigating cost-effective, confidential options.

Some participants elaborated on the notion of stigma as a significant deterrent to medical care. The participant explains that due to fear of judgment, many people in the AAS community refrain from visiting traditional healthcare providers, seeking out alternative health monitoring methods instead. This reflects a broader struggle to access non-judgmental care.

> Kase [22, male]: I know there's services [health monitoring]... like pathology online and they'll e-mail you, your blood results and stuff... 'cause there's a lot of stigma and stuff around it... a lot of people aren't [getting their bloods done] because they go to a doctor and just get interrogated and judged.

These insights indicate that, while participants were committed to health monitoring, they often had to overcome significant barriers—financial, legal, and systemic—to access the necessary services. This leads users to seek out private services or alternative, non-judgmental channels for testing, where they can receive more relevant guidance without stigma or unsolicited advice to cease usage.

> Edmund [41, male]: Yeah, and these [online services] are pretty good. Every couple of months, they issue you tests. So, they check your liver, kidney, all your bloods and make sure everything's on track.

Moreover, participants call for educational resources to aid in interpreting blood test results, acknowledging that understanding the implications of these tests can be complex. This lack of accessible, digestible information drives the demand for comprehensive guides or tutorials on how to properly manage AAS use while maintaining health. Such resources could be incorporated into nursing-led education or community outreach programs to improve health literacy and empower clients to interpret their results safely and accurately.

DISCUSSION

This study shows the proactive health management strategies of people who use AAS, as well as the structural barriers that hinder their access to healthcare. The findings highlight how consumers take responsibility for their health through self-monitoring, such as regular blood testing, blood pressure checks, and cardiovascular health assessments, despite the absence and inadequacies of formal support structures. From a nursing perspective, this represents a crucial insight into how individuals engage in self-care and harm reduction outside of the health system—behaviors that addiction nurses routinely aim to support and reinforce (Atkinson et al., 2021; Prentice et al., 2021).

A key finding of this study is that people who use AAS actively engage in health monitoring to mitigate the risks associated with their use, aligning with previous research demonstrating this group is often health-conscious (Fraser et al., 2020; Harvey et al., 2019). Participants reported regularly checking their blood work, liver function, and cholesterol levels, and using these tests as a critical feedback loop to adjust their usage and combat long-term health damage such as cardiomyopathy and hepatic dysfunction (Grant et al., 2024). This reflects the core nursing concept of health literacy—where individuals apply knowledge and self-monitoring to sustain well-being (Wilandika et al., 2023). This proactive approach is often motivated by the desire to manage risks while continuing to pursue health and performance-enhancement goals. This contradicts dominant public health narratives that portray people who use AAS as irresponsible or uninformed (James & Wynn, 2022), and instead highlights their commitment to minimizing harm and enhancing their well-being.

Despite their efforts, participants faced substantial barriers to accessing healthcare. Stigma from healthcare professionals was a central concern, which has been documented in previous research (Cox et al., 2024; Griffiths et al., 2016; McVeigh & Bates, 2022), with many participants describing how they avoided seeking medical care due to the fear of judgment and moralizing attitudes. For nurses in addiction and primary care settings, these findings reinforce the need for stigma reduction training and reflective practice to counteract unconscious bias and promote therapeutic engagement (Abees & Mohammed, 2020; Atkinson et al., 2021). This stigma, compounded by the criminalization of AAS use in Australia (Piatkowski, Gibbs, et al., 2024), creates an environment where people are reluctant to disclose their use of AAS to healthcare providers, thus forgoing necessary health monitoring and increasing their risk of negative outcomes. These findings are consistent with existing literature that highlights how stigmatization in healthcare settings leads to the marginalization of drug-using populations and exacerbates their health inequities (Benintendi et al., 2021). The fear of legal repercussions further exacerbates these barriers (Richardson & Antonopoulos, 2019), as participants expressed concerns that disclosing their AAS use to medical professionals could lead to criminal investigations or jeopardize their privacy. This indicates an urgent need for trauma-informed, rights-based nursing frameworks that prioritize confidentiality and client safety.

The financial burden of health monitoring was another key challenge identified by participants. Many reported difficulties in affording the costs associated with regular health checks, including blood tests and specialist consultations. This has direct implications for nurses involved in community or harm reduction outreach, who may be able to link clients to bulk billing clinics, low-cost pathology, or community-based screening programs. This economic strain, which has been documented among this cohort previously regarding the rising cost of living (Piatkowski, Vigorous, et al., 2024), often led participants to forgo medical care altogether or seek alternative, private services that could at least provide non-judgmental support. These economic barriers contribute to the inequitable access to health services, reinforcing the need for healthcare systems to integrate more accessible, cost-effective options for people who use AAS.

Private services, for example, might include "steroid coaches" (Gibbs et al., 2022; Piatkowski, Cox, Gibbs, et al., 2024), individuals who provide drug-related advice for a fee. These coaches educate people who use AAS, offering advice and information related to their drug use, drawing upon their lived-living experience, to guide less informed and knowledgeable people. Though steroid coaches must navigate both legal and ethical tensions (Piatkowski, Cox, & Collins, 2024), these coaches provide nonjudgmental support to this community. In addition, with the rise of the internet and social media, IPED influencers (Cox & Paoli, 2023) have emerged in the online world and provide a range of services which ought to be considered to protect and support health. These individuals package and sell their expertise online, services which include blood testing and analysis (Paoli & Joseph Cox, 2024). Again, drawing upon their lived-living experience, influencers provide services, which support the wider AAS community in a non-judgemental manner. For nursing and allied health professionals, this blurring between informal peer support and quasi-clinical advice signals a need to collaborate with credible peer educators, ensuring evidence-based guidance without reinforcing stigma or misinformation (Atkinson et al., 2021).

The findings of this study have important implications for health promotion and policy development, especially regarding how health systems and community services engage with people who use AAS. The active role that people who use AAS take in managing their health underscores a significant opportunity to enhance healthcare delivery, but it also highlights critical areas where current systems fall short. For nurses, these findings offer an evidence base to advocate for harm reduction interventions within addiction nursing curricula and practice, reinforcing person-centerd engagement rather than abstinence-only messaging. Importantly, people who use AAS often take an active and self-directed role in monitoring their health, in some cases demonstrating greater engagement with health surveillance than the general population (Hill & Waring, 2019). In support of this, are initiatives such as private blood testing services which provide people who use AAS with the ability to monitor their health markers confidentially. These services are vital, however also reveal a gap in healthcare where people who use AAS may self-interpret their results, or seek guidance from steroid coaches, rather than from medical professionals.

Importantly, some coaches hold a conflict of interest when blood testing and analysis is concerned, with profits generated through the sale and advertisement of such services. While some coaches profit through the provision of "discount codes," which advertise blood checking and analysis services over social media (e.g., Instagram), others directly share ownership in the companies that offer such services. With these individuals actively promoting the use of these services through various social media platforms (e.g., YouTube and Instagram), this should at least raise some concerns (see Paoli & Joseph Cox, 2024). There is, however, a clear need for more accessible, consumer-friendly resources to help people who use AAS interpret their health monitoring results. Many participants in this study expressed the need for clearer educational materials on how to understand and act upon medical test results. Indeed, establishing collaborative partnerships between experienced AAS consumers and healthcare professionals as co-experts (Nourse, Moore, et al., 2024) has been suggested as a way forward. Such partnerships would allow for more engaging health interventions and could help bridge the long-standing gap between consumers and medical professionals (Pope et al., 2004; Richardson et al., 2024). These resources could be developed with input from both health professionals and people who use AAS to ensure they are relevant, practical, and engaging for the target population. Such resources could empower consumers to take more informed actions about their health and to understand complex medical information in ways that promote better health outcomes. This is particularly relevant for nursing education and clinical practice, where patient teaching, shared decision-making, and health literacy enhancement are core competencies (Atkinson et al., 2021; Wilandika et al., 2023). This process, the integration of people with lived-living experience into harm reduction interventions is crucial to foster autonomy, choice, and trust. Individuals with lived-living experience bring nuanced understanding of the motivations, goals, and social contexts that shape AAS use, including the desire to continue use rather than abstain. Their involvement would underpin a non-judgmental approach, that is realistic and relatable, and respectful of personal agency, rather than rooted in stigma or abstinence-only models. By supporting informed decision-making and safer practices, the role of peers with lived-experience is vital to cocreating harm reduction strategies that are both effective and empowering for AAS communities. For addiction nurses, these insights reinforce the value of peer-informed, relational care that honors clients' autonomy while promoting safer practice.

Participants in this study frequently expressed frustration with the limitations of current testing options, noting that standard bloodwork did not always capture the full spectrum of health risks they faced—particularly in relation to cardiovascular complications. This aligns with broader research showing that prolonged AAS use is associated with elevated risks of cardiomyopathy and other subclinical effects not easily detected by basic blood tests (Horwitz et al., 2019). In response to these concerns, participants emphasized the need for more advanced screening tools. Healthcare systems should therefore embrace a more integrated approach to health monitoring for people who use AAS. This could include expanding access to more comprehensive screening techniques, such as echocardiograms or organ-specific assessments, to provide a holistic view of users' health. From a nursing lens, such integration aligns with preventive and holistic care models, where early screening and health education are key components of practice (Harvey et al., 2019; Prentice et al., 2021; Siegmund, 2022). Comprehensive health check-ups can play a crucial role in identifying adverse effects early, allowing for timely interventions. Such services would directly address the perceived gaps in current care and align with the proactive monitoring practices already adopted by this community. By providing a more integrated system of care that includes both basic and advanced health screenings, healthcare providers could support better health outcomes and reduce the risks associated with long-term AAS use.

The implications of this research also point to a need for broader structural changes in how healthcare is delivered to people who use AAS. One critical change would be to increase the availability of basic health monitoring services, such as regular blood pressure checks, which can serve as an important indicator of heart health and potentially flag early signs of conditions such as cardiomyopathy (Horwitz et al., 2019). These services should be available to people in both metropolitan and regional areas, ensuring equitable access to health monitoring for all people who use AAS. This proactive health management must be supported by accessible, non-judgmental healthcare services that recognize their

efforts and needs. For nurses, this underscores a moral and professional responsibility to advocate for equity in screening and preventive care. A key takeaway from this study is the necessity for a shift in public health approaches. For this shift to be effective, healthcare systems must foster more inclusive environments. This means addressing the stigma that people who use AAS often face when seeking medical care. Healthcare professionals must be trained to interact with people who use AAS in a non-judgmental manner, and to provide care that is informed by an understanding of the health complexities associated with AAS use (Piatkowski, Benn, et al., 2024). This could include anti-stigma initiatives tailored to healthcare professionals, emphasizing the need for empathy, confidentiality, and patient-centerd care in this context. These values (i.e., non-judgment, empathy, and client advocacy) are foundational to addiction nursing practice and should guide education and policy reform (Abees & Mohammed, 2020; Atkinson et al., 2021; Gallegos, 2023).

Limitations

While this study provides insights into the experiences of people who use AAS in Australia, the findings may not be generalizable to other cultural or geographic contexts. AAS use patterns, healthcare access, and stigma surrounding AAS use can vary significantly across countries and regions, meaning that the implications for healthcare systems in other locations may differ. The study explored participants' experiences with existing harm reduction and health monitoring services, but it did not assess the effectiveness of these services in terms of improving long-term health outcomes. Additionally, the sample size, while appropriate for qualitative inquiry, may limit transferability across different health settings, particularly nursing-led or primary care contexts. Future research should examine whether the availability and use of such services lead to measurable improvements in health, both physically and psychologically, over time. From a nursing research perspective, future work should also explore how nurses can be more effectively integrated into harm reduction and monitoring pathways for people who use AAS, including through education, policy development, and collaborative practice models.

CONCLUSION

This study highlights the proactive health monitoring efforts of people who use AAS, and the significant barriers they face in accessing healthcare. While these consumers engage in rigorous self-management practices to mitigate the risks associated with AAS use, stigma, legal concerns, and financial limitations often prevent them from seeking formal healthcare services. The findings of this study point to the need for a more inclusive, responsive health system that provides accessible, non-judgmental care. For nurses working in addiction, emergency, and primary care settings, this underscores the importance of recognizing people who use AAS as active partners in care rather than passive recipients, using relational and harm reduction-based engagement strategies.

That is, the need to consider and include people with lived experience within government-led harm reduction schemes. Indeed, people with lived-living experience play a vital role in harm reduction efforts by challenging stigma and promoting autonomy among peers. Their involvement brings credibility to interventions, helping to dismantle harmful stereotypes and shift narratives away from moral judgment. For nursing practice, this highlights the value of peer-informed approaches that blend professional expertise with lived experience, enhancing the authenticity and accessibility of care.

This empowers people to take control of their health and well-being, fostering trust, and meaningful engagement. Future health promotion interventions should focus not only on reducing harms but also on supporting the health management strategies already employed by this population, addressing the structural barriers that impede access to care, and promoting participatory, community-driven approaches to health promotion. Embedding these approaches within nursing frameworks of person-centerd, culturally safe, and non-judgmental care can help bridge the divide between clinical systems and the communities they aim to serve.

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