

*Anti-doping education for coaches: Qualitative insights from national and international sporting and anti-doping organisations.*

Laurie B. Patterson & Susan H. Backhouse

*Institute for Sport, Physical Activity and Leisure*

*Leeds Beckett University, Leeds, UK.*

Full postal address for authors: Institute for Sport, Physical Activity and Leisure, Leeds Beckett University, Fairfax Hall, Headingley Campus, Leeds, LS6 3QS, United Kingdom.

Email addresses: [L.Patterson@leedsbeckett.ac.uk](mailto:L.Patterson@leedsbeckett.ac.uk) / [S.Backhouse@leedsbeckett.ac.uk](mailto:S.Backhouse@leedsbeckett.ac.uk)

Correspondence concerning this article should be addressed to Dr. Laurie Patterson at the postal address and email address stated above or via telephone on (+44) 113 812 4007.

## **Abstract**

Within anti-doping efforts, an emphasis has been placed on the importance of providing education programmes to key stakeholder groups, including coaches. Yet, very little is known about current coach education provision in the anti-doping domain across countries and sports. Therefore, this study aimed to: 1) establish the current status of anti-doping education for coaches; 2) gain an understanding of the system through which anti-doping education is provided to coaches; and, 3) explore the opportunities for future education provision. This was done through semi-structured interviews with thirteen individuals responsible for managing anti-doping education within national and international sporting and anti-doping organisations. Most stakeholders acknowledged the importance of providing education programmes for coaches; some already had provision in place and others were in the process of developing programmes. However, the current focus is on sportspeople and the degree to which sporting and anti-doping organisations are able to devise, implement and evaluate anti-doping education programmes for coaches is hindered by the contextual constraints they face. These include a lack of resources and limited interagency coordination, as well as challenges to overcome negative perceptions of ‘anti-doping’ efforts. Taken together, the findings indicate that policy expectations regarding anti-doping education for coaches are not being fully operationalised, and this situation is unlikely to change without: 1) greater direction and regulation of the system through which education is provided; 2) frequent and effective communication and cooperation between Code signatories; and, 3) increased fiscal and human capital investment at every level of the sporting hierarchy. Ultimately, until anti-doping education is shown to be a key priority for decision makers within sporting organisations (i.e., chief executives and board members), it is unlikely to become a central priority for coaches.

**Keywords:** *Athlete support personnel; coaching; doping; drugs in sport; education; prevention.*

## **1. Introduction**

Globally, social scientists are striving to understand doping behaviours with a view to informing and improving anti-doping policy and practice. At present, doping is primarily managed through detection and deterrence and this assertion is evidenced by the heavy spending on drug testing and intelligence-led investigations (WADA, 2012, 2014). However, the importance of prevention through education has been emphasised (Backhouse, Patterson, & McKenna, 2012) and reinforced in the revised World Anti-Doping Code ([WADC], WADA, 2015). Furthermore, amendments to the 2015 Code acknowledge - and attempt to defend against - the role of athlete support personnel (ASP) in doping in sport (Zaccardi, 2014). Specifically, ASP should, (1) be knowledgeable of anti-doping rules; (2) comply with testing; (3) use their influence to encourage anti-doping attitudes in their sportspeople; (4) cooperate with doping-related investigations; (5) declare any prior involvement in doping to relevant authorities; and, (6) refrain from personal use of substances or methods that are prohibited in sport (WADA, 2015, p. 70). ASP are subject to sanction if they fall foul of the anti-doping rules and this gives rise to a need to ensure that these individuals make informed decisions (WADA, 2015). Consequently, in a bid to foster Clean Sport and Code compliance, national and international sporting organisations are duty-bound to ensure that anti-doping education reaches a range of populations, including athletes, their parents and their support personnel (WADA, 2015).

### *1.1. The importance of educating coaches in relation to anti-doping*

Notwithstanding the array of support personnel within an athlete's entourage, theoretical, empirical and anecdotal evidence highlights the importance of coaches in relation to doping behaviours. Qualitative research by Smith, et al. (2010) illuminated the potential power of coaches when they found that elite sportspeople not only viewed coaches as inspirational and knowledgeable, but also identified them as being 'obeyed without question'

(p. 188). Therefore, it is not surprising that coaches have been found to play a facilitative role in a number of doping incidents (e.g., Ungerleider, 2001). For instance, several track and field coaches (e.g., Mark Block, Remi Korchemny) were involved in sourcing and supplying substances within the Bay Area Laboratory Cooperative (BALCO) doping regime of the 2000s (Fainaru-Wada & Williams, 2006). Similarly, speculation about the involvement of coaches in doping behaviours among cyclists (Walsh, 2007) was confirmed via the United States Anti-Doping Agency's (USADA) investigation into the suspected doping of American Cyclist, Lance Armstrong. Investigators uncovered a systematic doping system involving coaches and other support personnel, who were subsequently sanctioned for the part they played in the case (USADA, 2012). Beyond the Armstrong and BALCO cases, several other coaches have been banned from working in sport for their involvement in doping behaviours (e.g., Andre Abut, Canadian Centre for Ethics in Sport, 2009; Valerio Mascariello, Canadian Centre for Ethics in Sport, 2010).

In contrast to the coach as a doping facilitator, research with sportspeople has supported the protective influence of coaches in relation to doping due to their 'closeness' or 'importance' (e.g., Goulet, Valois, Buist, & Cote, 2010; Kirby, Moran, & Guerin, 2011). This potential 'anti-doping' power of coaches is corroborated through their self-reported belief that they should use their influence positively to aid doping prevention (Figved, 1992; Fjeldheim, 1992; Fung & Yuan, 2006; Laure, Thouvenin, & Lecerf, 2001). The possible impact of a coach on the doping behaviour of sportspeople is also implicitly recognised in existing theories in the field. For example, the Sport Drug Compliance Model draws attention to the impact of 'reference group opinion' – and highlights coaches as a primary contact group (Donovan, Egger, Kapernick, & Mendoza, 2002). Furthermore, theory (e.g., Donahue, et al., 2006) and empirical evidence (e.g., Bahrke, 2012; Barkoukis, Lazuras, Tsorbatzoudis, & Rodafinos, 2011) has suggested that 'maladaptive behaviours' such as doping might be triggered by coaches fostering a 'win at all costs' environment. The potential influence of coaches through their

coaching climate is further reinforced by research indicating that the ‘moral atmosphere’ the coach creates and the relationship they have with their sportspeople has the potential to influence morality-related factors among sportspeople (Gonclaves, Coelho e Silva, Cruz, Torregrosa, & Cumming, 2010; Hardman, Jones, & Jones, 2010; Steinfeldt, Rutkowski, Vaughan, & Steinfeldt, 2011). Therefore, coaches are centrally positioned to impact personal morality (Donovan, et al., 2002; Stewart & Smith, 2008), moral reasoning (O'Donnell, Mazanov, & Huybers, 2006) or moral disengagement (Lucidi, et al., 2008) in relation to doping behaviours.

### *1.2.Existing anti-doping education for coaches*

A number of sporting and anti-doping organisations have developed and implemented anti-doping education programmes for coaches. Although there are no central records of the programmes being delivered, an insight into the current landscape of anti-doping education for coaches was gained by searching the websites of WADA, the United Kingdom Anti-Doping agency (UKAD), International Federations (IFs) and UK-based National Governing Bodies (NGBs). At a global level, WADA developed the Coach's Tool Kit in 2007 to "assist stakeholders in the facilitation of a face-to-face [anti-doping education] workshop for coaches" (WADA, 2007, p. 24). In 2010, WADA translated the tool kit into two online services and launched them as CoachTrue Elite and CoachTrue Recreational. Through a series of slide shows and scenario-based exercises, WADA intended to increase coaches' awareness and knowledge of their anti-doping responsibilities, including encouraging coaches to consider their own decision-making process in their daily interactions with sportspeople (WADA, 2010). A number of IFs are advocating, or are at least signposting, the CoachTrue programmes from their website, including the International Gymnastics Federation (FIG) and the International Swimming Federation (FINA). In contrast, a number of IFs endorse other anti-doping education and these are typically generic programmes, rather

than programmes that are specifically targeted at coaching populations. For example, the International Cycling Union (UCI) promotes its ‘True Champion or Cheat’ programme.

Several national anti-doping organisations (NADOs) have also duplicated educational efforts by designing their own anti-doping programmes for coaches. For example, in 2012, UKAD introduced Coach Clean which like CoachTrue offers an online programme that utilises interactive scenarios in an attempt to improve coaches’ understanding of what anti-doping means for them and their sportspeople (Skills Active, 2012; UKAD, 2012). At present, it is not possible to state how many organisations are advocating the programme to their coaches or have integrated it into their education system. However, preceding this development in the UK, a number of organisations already had in place alternative coach anti-doping education. For instance, British Cycling requires Level 3 coaches to use their IF’s programme, ‘True Champion or Cheat’, to achieve certification. This demonstrates that, similar to IFs, not all UK-based sports organisations (i.e., NGBs) deliver coach-specific anti-doping education.

The variability in education provision at national and international levels is heightened by the discovery that some organisations do not appear to be implementing any education to coaches working in their sport. Instead, some IFs and NGBs provide generic anti-doping information on their website. This typically covers rules and regulations, such as anti-doping policy, doping control procedures and information regarding the Registered Testing Pool (RTP) or Anti-Doping Administration and Management System (ADAMS/Whereabouts). In some cases, information is also provided relating to the use of medications (Therapeutic Use Exemptions (TUEs)) or nutritional supplements. Anti-doping policy directives state that education must reach ASP, including coaches. Therefore, while in theory WADA and UKAD have introduced education programmes for coaches, compliance with policy directives has only been achieved when all sporting organisations (i.e., IFs and NGBs) under their jurisdiction are providing education to this group.

Indeed, the Code (WADA, 2015) provides clear guidelines on the roles and responsibilities of signatories. One such directive is that NADOs and IFs should “promote anti-doping education”, including, “requiring National Federations to conduct anti-doping education in coordination with the applicable National Anti-Doping Organisation” (WADA, 2015, pp. 65-67). In this vein, the traditional chain of delivery for anti-doping policy, education and general doping-related information involves a filtering through from WADA, to IFs and NADOs, on to NGBs (WADA, 2009a). This delivery chain is in line with the UK Coaching Framework stating that NGBs should take the lead role in the design, delivery and quality-assurance of sport-specific coaching systems, including delivery of resources (sports coach UK, 2008). Although these guidelines are communicated widely, very little information regarding the status of anti-doping education across countries and sports is available in the public domain. Going forward, it is crucial that this information is collated to ensure that anti-doping policy is being effectively operationalized. Therefore, more must be done to monitor if organisations are providing anti-doping education to coaches.

### *1.3. Using a logic model approach to investigate anti-doping education for coaches*

If anti-doping education programmes for coaches (and all other stakeholder groups) are to be carefully planned and implemented, as well as monitored, evaluated and modified over time, it is vital to understand the principles and theoretical frameworks on which they are based. For several decades, logic models have been used as tools in this conceptualisation process (McLaughlin & Jordan, 1999). A logic model is a diagrammatic representation or ‘road map’ of a programme that depicts its target populations, resources, activities and intended results (Dwyer & Makin, 1997; Kaplan & Garrett, 2005; W.K Kellogg Foundation, 2001). Logic models offer a planning and management tool to help clarify goals, achieve consensus, identify gaps in logic or in knowledge, and track progress (i.e., can be used to direct programme evaluation) (Kaplan & Garrett, 2005). While logic models have been used

for programme development, implementation and evaluation in a number of fields, including health and education, it is only recently that they have been indicated as potential tools for anti-doping education (Backhouse, McKenna, & Patterson, 2009; Houlihan & Melville, 2011).

Logic models are typically created by synthesising information from various sources, including relevant legislation, strategic plans, literature reviews, scientifically generated knowledge (e.g., investigations/evaluations of programmes) and stakeholder insights (Dwyer, et al., 2003; Houlihan & Melville, 2011). Using a logic model approach to investigate anti-doping education for coaches could improve the organisation and quality of programmes, as they will be theoretically grounded and systematically justified. Specifically, anti-doping education programme providers can benefit from making the implicit assumptions and characteristics of programmes explicit because it enables them to carefully consider if their proposed logic and goals are realistic and credible (Kaplan & Garrett, 2005; Weiss, 1998). Moreover, gathering stakeholder insights facilitates the development of programmes from a bottom up approach; this increases the likelihood that stakeholders will value, support and ultimately ‘buy-into’ the programme, facilitating community ownership, implementation and sustainability (Dwyer, et al., 2003).

The body of research to inform anti-doping education programmes for coaches is slowly growing (Cycling News, 2015; Sullivan, 2013). However, our understanding of the lived experience of individuals responsible for providing anti-doping education (i.e., those operationalising directives) is limited. In the UK, the only published research in this area investigates one arm of the 100% ME programme – the tutor network – from the perspective of individuals responsible for programme delivery on the front line (i.e., tutors) (Mottram, Chester, & Gibson, 2008). Before finite resources are invested into establishing appropriate anti-doping education based on coaches’ views, it is necessary to understand the provision of anti-doping education from an organisational perspective; consulting with individuals who

are responsible for decision-making in the design, delivery and ongoing management of programmes will increase the likelihood that recommendations for future programmes are appropriate and feasible.

## **2. The present study**

The purpose of the study was to consult individuals responsible for the design, delivery and evaluation of anti-doping education within national or international sporting and anti-doping organisations in order to, 1) establish the status of anti-doping education for coaches; 2) gain an understanding of the system through which anti-doping education is provided to coaches (e.g., by whom, how, why, what content, what challenges exist); and, 3) explore the potential for coach anti-doping education provision in the future.

## **3. Method**

### *3.1 Sample recruitment and characteristics*

Individuals responsible for anti-doping education within 18 national and international sports or anti-doping organisations were invited to an interview to take place at a time and location chosen by them. In total, 13 stakeholders were interviewed. In accordance with the ethical approval granted for this study, limited participant details will be disclosed in order to protect the identity of the individuals and their organisations. However, we can state that within the sample, nine individuals were male and four were female. Furthermore, the purposeful sampling strategy resulted in stakeholders representing national or international sporting and anti-doping organisations. Due to the focus being on gaining a greater understanding of the UK context, nine of the 13 participants represented UK-based national sports organisations (i.e., NGBs). These included a variety of small and large NGBs, as well as organisations representing sports spanning the spectrum of doping prevalence (according to the violation records held on the UKAD website). This purposeful approach was adopted

to gain insights into different contexts in order to compare and contrast practice (e.g., to establish if larger organisations or sports with multiple ADRVs are implementing more education than smaller organisations or sports with no current ADRVs).

### *3.2 Interview details*

All interviews were semi-structured and the questions were informed by the three main aims of the study. The interviews began by asking stakeholders to outline their current role within their respective organisations. This opening question helped to put the participant at ease and establish rapport (Patton, 2002) and served to verify that the individual was responsible for anti-doping education within their organisation. The discussion transitioned to the main body of questions, which explored the current provision of anti-doping education for coaches within organisations. Individuals were asked to outline the programme(s) that they currently have in place, including how the programme was developed, what it consists of, what it hopes to achieve and the mechanisms that promote or limit the impact of the programme. These questions gave consideration to the key components of a logic model, which are target populations, intended outcomes, activities/outputs and resources/inputs. In particular, stakeholders were invited to outline any challenges they face in designing, implementing or evaluating anti-doping education for coaches. Moreover, stakeholders were specifically asked about the levels of engagement with anti-doping education they have experienced from coaches, as previous research has signalled that engagement with anti-doping education programmes among coaches is low (Patterson, Duffy & Backhouse, 2014). Due to the diversity of the organisations and semi-structured nature of the interviews, minor amendments were made to tailor the interview guide to each individual/organisation. For instance, organisations that did not have programmes for coaches in place were asked to give an insight into the reasons for this and discuss any plans for future programme development.

### *3.3. Procedures*

The University Ethics Committee granted approval for the study and participants were asked to read an information sheet and sign an informed consent form prior to commencing the interview. These documents highlighted that participants were free to withdraw from the study at any time without reason. They also stated that confidentiality and anonymity would be maintained, including assuring participants that their comments would not be linked to their sport (or organisation). This reassurance was important given the taboo nature of doping in sport and to limit, as much as possible, socially desirable responding by the participants (Whitaker, Backhouse, & Long, 2014).

Interviews took place face-to-face ( $n=7$ ), online via Skype ( $n=3$ ) or over the telephone ( $n=3$ ) and lasted between 33 and 140 minutes ( $M=70$ ,  $SD=28$ ). Participants were interviewed individually with the exception of two stakeholders who volunteered to participate from the same organisation and asked to be interviewed together. Subject to the consent of participants, all interviews were digitally recorded. Prior to analysis, in order to establish the credibility of the data, transcripts were sent to participants for a “stakeholder check” (Patton, 2002). A number of stakeholders elected to remove some data from their transcript at this time; these data were generally content that they believed would make them identifiable.

### *3.4 Data analysis*

Audio recordings were transcribed verbatim, before inductive thematic analysis was used to examine the data (Braun & Clarke, 2006). This process began with reading and re-reading the interview transcripts to ensure that the researcher was familiar with the data and fully understood each case. The next stage consisted of generating initial codes through open coding each interview transcript. All codes from the transcripts were collated and grouped into themes and subthemes. Each interview transcript was checked against the codes as well as the themes and subthemes identified.

#### **4. Results and discussion**

The aims of the study were to establish the status of anti-doping education for coaches, gain an understanding of the system through which anti-doping education is provided to coaches, and explore the potential for future provision. The insights from the stakeholders were grouped into four main themes. The first theme highlights stakeholders' beliefs that coaches are an important influence in doping prevention. Therefore, most stakeholders saw the value in providing anti-doping education to this target population. However, the current provision of anti-doping education for coaches was sporadic across organisations. The second theme illustrates that the provision of education to coaches is influenced by the finding that stakeholders prioritise elite sportspeople and are primarily concerned with avoiding a positive drugs test in this group. The third theme presents the stakeholders' ideas for future anti-doping education for coaches, with a focus on tailoring programme content to suit coaches' working environments. The final theme, comprising three subthemes, discusses the complexities and challenges of providing anti-doping education for coaches. It highlights that future provision depends on several contextual factors, including 1) the limited resources that organisations/stakeholders are able to access; 2) the lack of co-ordination of efforts across organisations; and, 3) the struggle to get people at every level of the system to value and promote the importance of Clean Sport.

##### *4.1. "We want to have something for coaches, something is better than nothing"*

Several stakeholders felt that anti-doping education efforts have to take, "a holistic approach, you know, taking into account the entire environment of sport" (Stakeholder 8) and stressed, "Athlete Support Personnel [ASP] are a key focus in terms of what we need to do, without a doubt" (Stakeholder 3). Individuals targeted under the bracket of ASP varied across organisations, but stakeholders specifically identified coaches as a target population. Stakeholder 3 said, "It's about educating the entourage and coaches are a key member".

Therefore, stakeholders acknowledge the theoretical (e.g., Donovan, et al., 2002) and historical (e.g., Dubin, 1990) evidence that doping-related behaviours are influenced by their social relationships, despite there being only a small body of empirical evidence in the anti-doping field to support this at present (e.g., Kirby, Moran & Guerin, 2011).

Aligned with the acknowledgement that coaches should be targeted, some form of anti-doping education activities/outputs were being provided to coaches by the stakeholders' organisations – albeit to varying degrees. A small group of organisations provided anti-doping education specifically for coaches and three organisations had integrated anti-doping education into various levels of coaching qualifications. In fact, Stakeholder 12 was currently trying to improve the integrated anti-doping content: “It’s our intention that as part of that course the prominence of the doping module will increase”. In contrast to these organisations, a group of stakeholders explained that coaches received the same anti-doping education as sportspeople. To illustrate, Stakeholder 9 commented that coaches are, “welcome to sit in on what I do and more often than not they do. But other than that there’s no specific coach-orientated things really”. Indeed, a common approach across half of the stakeholders was to invite coaches to attend face-to-face sessions being delivered to sportspeople. They also indicated that they disseminate the same resources (i.e., leaflets, posters) to coaches and sportspeople alike. Thus, a ‘one size fits all’ approach to education was commonplace. Given the limitations of this approach (Backhouse, et al., 2009), it was positive to note that a number of these organisations identified the need for coach-specific anti-doping education when discussing ideas for future provision. For example, Stakeholder 1 said, “at the moment we’re certainly pushing forward from the point of view that presently we have nothing for coaches, we want to have something for coaches, something is better than nothing.”

Only two stakeholders did not intend to expand the anti-doping education provision that was already in place for coaches. Stakeholder 9 acknowledged the worth of educating coaches, but explained that it is, “something that has been on my radar for a while...And that

just keeps slipping really,” and added, “there’s an argument that, is that even needed?” In the revised Code, ASP education is a compulsory activity (WADA, 2015) and in order to be Code compliant a number of organisations in the present study will be compelled to address this shortfall in their provision. One possible factor influencing stakeholders’ commitment to educating different target populations is discussed in theme 4.2.

#### 4.2. *“The focus always has to be on [sportspeople] and everything else comes secondary”*

While some stakeholders discussed the need to educate coaches, it was clear that elite sportspeople were the priority target population for most organisations. Stakeholder 6 said, “So last year we ran over [number] education sessions. But, 98% of that would have been to [sportspeople]”. Stakeholder 2 explained, “because of the WADA being [sportsperson] centred with strict liability, the focus always has to be on [sportspeople] and everything else comes secondary.” Specifically, the priority was, “starting with the top of the pyramid working with the World Class [sportspeople]” (Stakeholder 11). Beyond this, a small number of stakeholders commented on the importance of reaching, “as wide an audience as we can” (Stakeholder 6). For instance, there have been moves by some organisations to spread their education activities to young sportsmen and women competing at the sub-elite level. Stakeholder 1 said they were, “trying to get in at the younger end through schools [sport] and also through the clubs. Because for me that’s where the big wins can happen.” However, this stakeholder reiterated the prioritisation of elite sportspeople when they said that targeting individuals earlier in the performance pathway was, “the best way to minimise the amount we hassled the elite [sportspeople]” (Stakeholder 1).

It is perhaps not surprising that elite sportspeople are the priority for organisations as testing is often targeted at this performance tier and this context drives education efforts focused on minimising the risk of inadvertent doping. Stakeholder 2 shared their insight on this matter:

Most of the anti-doping rule violations are on [sportspeople] and it is essentially about preventing [sportspeople] inadvertently doping. Because of the way the rules are written you have got to put so much focus on supplements and preventing inadvertent doping, there's very little time to actually look at the wider [population]. So that's got to be the focus really.

Even when 'the wider population' - such as coaches - were provided with anti-doping education, stakeholders described programmes that were dominated by detection-deterrence messages. This reinforces the notion that existing information programmes for both athletes and coaches are focused on delivering compliance-related content as set forth in the Code (WADC, 2015) (as discussed in section 1.2). Indeed, Stakeholder 4 emphasised the importance of, "trying to support players avoiding inadvertent doping cases," such as "supplements in sport is obviously very big, and then basically stuff like medications, TUEs." In this vein, stakeholders stressed that education is informed by previous cases of doping. Stakeholder 2 commented, "It's more issue-led really, and anecdotal, and reactive...if we get a positive case, what went wrong?"

Those stakeholders who stressed the importance of educating coaches in anti-doping matters noted that the intended outcomes of programmes should be to raise awareness, provide basic messages and signpost coaches to further support and resources. Stakeholder 2 commented, "its absolute light touch stuff really," and explained, "get a bit of something to coaches early on to raise it in their consciousness and then they know where to go if they need anything else." Stakeholder 10 also commented on the level of learning expected: "I don't think our expectation is for every coach to be an expert in anti-doping." Instead, stakeholders hoped that anti-doping education for coaches would result in them buying into anti-doping messages and reinforcing them to their participants and performers. Stakeholder 10 demonstrates this continued prioritisation of the sportsperson: "if you educate one coach you educate 10 or 15 [sportspeople]."

#### 4.3. *“We won’t get the engagement if they think you are just doing it generically”*

Going forward, stakeholders highlighted the need to move away from the common approach of ‘one size fits all’ education. As briefly discussed in theme 4.1, stakeholders proposed that coaches should receive “coach-centred” education, rather than the same messages that are delivered within “athlete-centred” programmes (Stakeholder 11). Beyond providing coach-specific programmes, stakeholders indicated that education activities for coaches should be tailored further according to the context in which they work. Stakeholder 6 said, “we won’t get the engagement if they think you are just doing it generically.” In particular, a number of stakeholders identified the need to account for coaches working in different sports and at different levels of competition.

With regard to tailoring according to sport, some organisations commented that one of the main reasons for developing their own anti-doping education programmes for coaches was to make it sport-specific. Stakeholder 13 said that, “sports are inward looking,” elaborating, “even though [a doping incident] has affected a 17 or 18 year old [sportsperson], they go ‘that’s [sport], that’s got no relevance to me’”. Specifically, stakeholders suggested that using images of individuals from their sport and adopting sport-specific terminology to refer to sportspeople as athletes, players, etc., would increase the perceived relevance of education materials among coaches because, “it makes it a bit more real for them” (Stakeholder 1). Stakeholder 9 reflected:

Talking about [sportsperson from sport A] is not really relevant to [people from sport B], because that’s a different world – you might as well be on a different planet ... If it’s not relevant to the, be they coaches or [sportspeople] or young [sportspeople], they’ll just switch off because there’s no link to what is real to them I suppose, what is their life. They don’t see the point of what you’re talking about.

In relation to tailoring programmes according to the level of competition at which the coach works, some organisations had selected a particular certification level as their target population. Most stakeholders discussed, “protecting the top end” (Stakeholder 6). Stakeholder 2 corroborated this focus, and earlier findings concerning the focus on high performance sport, by saying, “realistically, education is only going to start on [top level] coaches.” Yet, other organisations discussed a progressive curriculum, where coaches of all levels would receive anti-doping education, but the nature of it would be differentiated according to their certification level. Moreover, a small number of stakeholders identified the need to include coaches outside of the performance pathway in their target populations, such as individuals working in participation contexts with children and adolescents. Stakeholder 12 said, “with any education, the earlier you can get to people the better,” explaining that, “if you can, if there is a structured development pathway for coaches, then you would get to them early and then as they go along you would supplement what you do.”

Notably, a common recommendation for future anti-doping education for coaches was to integrate anti-doping education as a compulsory part of coach development processes. Stakeholder 8 believed that making anti-doping education compulsory is necessary to increase engagement among coaches:

It’s not that they don’t want to do it and that they’re against the idea, but it’s just that it’s so low on their list of priorities that it never gets to the top where it actually gets done ... Coaches won’t voluntarily do it. Unless you force them to do it and then it does become a higher priority.

Addressing the issue of priority, a number of stakeholders suggested that anti-doping content could be combined with other topics if it were integrated into coach education. Stakeholder 1 said that anti-doping, “fits into lots of places, it’s not a stand-alone subject for me,” emphasising that, “the anti-doping message should almost be a secondary message as part of that, rather than ‘well it’s the drug thing again; let’s talk about the drugs.’” Several

stakeholders also posited that coaches might engage with anti-doping education more readily if it was linked to performance-related topics in particular. Specifically, Stakeholder 4 suggested that anti-doping could be, “tied in when they do injury prevention, medical, first aid, anti-doping will be in that. Whatever cluster that comes in.” Notably, some stakeholders recognised that coaches prioritise performance and were conscious of the amount of attention they placed on anti-doping. For instance, Stakeholder 12 made the assumption that: “Coaches are almost entirely focussed on winning, so we’ve got to be careful about giving them too much because they just won’t listen. But if we give them some simple things, I think there’s more chance of that going in”.

In addition, some stakeholders highlighted that anti-doping messages are part of a broader positive ethical message. Stakeholder 10 explained their plans for the future in their organisation:

There will be an anti-doping module. There is also talk of integrating the ethics of anti-doping within a wider ethics module, which is separate to anti-doping ... I think that’s quite good because I think ethics, especially when you’re dealing with younger [sportspeople], it’s the whole thing, not cheating full stop, or abiding by the rules full stop, whether they [are] rules of competition or anti-doping rules. I think that’s really important.

This aligns with WADA’s call for education to focus on values (WADA, 2011), as well the emphasis they place on ASP using, “their influence on athletes’ values and behaviours to foster anti-doping attitudes” (WADA, 2009b, p.99).

Despite these proposals, a couple of stakeholders had faced - or believed they might face - challenges in integrating a compulsory element of anti-doping education into coach education within their organisation. Stakeholder 6 recalled: “We have looked at trying to get something. What I get fed back to me is that all the way through the awards they’re full. You can’t get any more on. So they’ve got so much involved as it is, it can’t be done.”

These findings indicate the importance of coach anti-doping education featuring in the strategic objectives and key performance indicators of sports organisations in order to ensure it is given the attention and resource it seemingly deserves. In this vein, in addition to the complexities of working with other departments to integrate anti-doping into coach education processes, Stakeholder 13 highlighted that tailoring programmes across qualifications would be difficult due to a lack of resources. He stated that, “backing that up, that is the hard bit. Because that does come down to funding, resourcing, spending time, just physical time on that, as opposed to just spending pound notes on it.”

#### *4.4. “Maybe the reality is that [anti-doping] education comes after everything else”*

##### *4.4.1. Lack of resource*

A major challenge of providing anti-doping education to coaches, and other populations, is that organisations have limited resources/‘inputs’ for anti-doping education, including money and personnel. In terms of money, the allocation and use of funding and budgets differed among organisations. However, a common theme was that organisations do not receive external funding for anti-doping education. Stakeholder 2 said, “there’s no direct funding. The funding has to come internally ... the actual resources and the delivery side is all paid by the [organisation].” Stakeholder 6 highlighted that one of the challenges of the funding situation was that, “anti-doping is unfortunately one of those that doesn’t bring anything in,” meaning that it is, “a difficult sell for someone like me.” Stakeholder 8 corroborated these viewpoints by saying that, “everybody wants more education,” but organisations are not being given, “the means to be able to do it.” This is a salient finding considering that the already limited financial resources are likely to decrease in the future. For instance, UKAD’s annual budget has been reduced from £6.45 million per year in 2010 to £4.69 million in 2015 (Gibson, 2013).

Due to limited finances, some of the UK NGB stakeholders were unsure about adopting or endorsing UKAD's Coach Clean programme. While this is a coach-centred, coach-specific programme, it costs £15 per licence (i.e., per person) on an introductory offer, with prices rising to £25 thereafter. Interviewees representing UK NGBs were torn between trying to absorb the costs within their organisation and passing on the cost of anti-doping education to coaches. In particular, a number of stakeholders said that charging coaches for anti-doping education might negatively impact their engagement and this is demonstrated in Stakeholder 1's explanation:

Within [sport] the vast majority of coaches are voluntary coaches. And they pay an awful lot of money already to go through the qualifications. And although 10 or 20 quid isn't a huge amount of money, it can get to the point where people say 'do you know what, enough is enough, I'm not paying any more'.

Stakeholder 11 agreed that cost was important, saying, "I find it difficult when, if we make it compulsory for a coach to be part of, that they have to pay it themselves." Findings from the coaching-related research field have shown that cost deters coaches from engaging with education opportunities, particularly if the coaches do not highly value the content (Nelson, Cushion, & Potrac, 2013). As a potential solution, a number of stakeholders viewed developing their own programme as more cost-effective.

In terms of personnel, a lack of "man-power" was regarded as an issue (Stakeholder 8). Individuals responsible for anti-doping education within organisations often had other anti-doping responsibilities, including developing strategy, designing or circulating resources, face-to-face delivery, outreach activities, dealing with queries, managing Whereabouts submissions/systems, discipline/results management and managing relationships with various parties. Stakeholder 1 said, "It's hugely mixed at the moment," and reflected not only on the difficulty of balancing responsibilities, but also on the prioritisation of educating to promote

compliance: “I suppose with my role covering such a wide remit, if I was to focus all of my energy on coach education then something else would miss out. And if one of our elite [sportspeople] might get three missed tests, at which point I’d probably get shot.”

Some individuals responsible for anti-doping education within organisations not only had anti-doping responsibilities beyond education, but also had other responsibilities beyond anti-doping. Discussing this matter, Stakeholder 6 commented:

One person is the CEO and the cleaner and the anti-doping official and the Performance Director – [they’re] everything. That’s really tough ... What have you done? All this. What have you done? I haven’t done any of that because I’ve got umpteen other roles that encompass, you know, I’m looking after the cat and the cleaner and the [organisation] team as well.

These findings regarding the lack of resources illustrate inherent organisational complexities and challenges that might limit the provision of anti-doping education beyond high performance athletes. In turn, these organisational barriers are likely to maintain a status quo of disjointed, duplicitous, and predominantly reactive, anti-doping education for coaches.

#### *4.4.2 Communication, coordination and regulation pose a challenge*

Based on stakeholder insights, the anti-doping education system seems to lack a strategic direction that has an emphasis on sustainability. Individuals responsible for programme development and delivery conceived their own education-related objectives and determined their education efforts and resources “relatively autonomously” (Stakeholder 12), saying: “I’m sort of lucky that it’s me who gets to decide where it goes” (Stakeholder 6). Stakeholders in NGBs indicated that they received little guidance or assistance from IFs or WADA regarding the minimum standards of their education provision. Instead, national sporting organisations rely on their NADO as “a big support” (Stakeholder 13). Notably, the NGBs’ relationships with their NADO focussed on “finding mutual ground, where they can

help us help ourselves if you like,” rather than, “them being dictatorial” (Stakeholder 13). This stakeholder highlighted the importance of NADOs not prescribing NGB activities too strictly as, “if they were dictatorial people would just put the barriers up” (Stakeholder 13).

Although stakeholders within organisations may appreciate being able to work autonomously, the current WADC states that WADA, NADOs and IFs have a responsibility to “promote anti-doping education” (WADA, 2015, pp. 64-67). Moreover, in theory, WADA and NADOs exist to ensure that anti-doping efforts are ‘harmonised’ (i.e., consistent) at a global and national level, respectively. Yet, conversations with the stakeholders suggest that there is very little interaction between WADA or IFs and NGBs to ensure a consistent approach to anti-doping education occurs. NGB stakeholders reported, “we don’t have an awful lot of contact with [WADA]” and “use information on their website, but I don’t even have a contact” (Stakeholder 10). Corroborating this, another stakeholder said, “Not much comes direct from WADA” (Stakeholder 13). This is not surprising as NGBs are not direct signatories to the WADC, so are once removed from WADA’s jurisdiction. However, it seems reasonable to expect IFs to play some part in directing anti-doping matters within their national federations (i.e., NGBs) due to the waterfall structure of the anti-doping system, which involves a filtering through from WADA to IFs and NADOs on to NGBs (WADA, 2009a). Stakeholder insights suggest that IFs are falling short of this responsibility with NGBs in the UK, as most NGB stakeholders reported having very little contact with the IF for their sport. Stakeholder 11 recalled that, “the only contact I have with [IF] for anti-doping is with regard to Whereabouts,” and Stakeholder 6 added that, “The [IF] won’t really give us materials.” Indeed, when NGBs did have contact with their IF, it primarily related to testing (i.e., Whereabouts submissions, reporting positive findings) as opposed to education:

Domestically, they don’t really have anything to do with us. I guess if they were concerned that we weren’t in some way kind of Code compliant they could become involved then...I have to provide the [IF] certain information about Whereabouts and

that kind of thing as well. We engage quite a lot, but not really on education as such.

(Stakeholder 9)

Similarly, while appreciating that, “it’s probably very difficult for [IFs] to provide a suitable level of resource for what our needs are really,” because, “their audience is however many national federations in a multitude of different languages and different cultures,” Stakeholder 10 concluded that education “is missing with the [IF].”

In contrast to IFs, the UK NADO appears to be fulfilling expectations under the WADC to “promote anti-doping education” (WADA, 2015, p. 67). In turn, they are also meeting the expectation of the UK National Anti-Doping Policy (UKAD, 2009), which states that, “UK Anti-Doping will promote and support active participation by NGBs, Athletes and Athlete Support Personnel in education programmes for doping-free sport” (p. 6).

Stakeholders commented that, “99% of the contact comes direct through [NADO]” and that, “they’ve got the tools and the messages and we can just adapt it to make it specific to [sport/organisation].” However, there is a danger that NGBs relying on the NADO will lead to anti-doping education efforts in the UK suffering when UKAD’s budget decreases (Gibson, 2013). While it is possible that IFs and WADA might also be susceptible to funding cuts in the future, sharing the responsibility, intelligence, and financial ‘burden’ across organisations might help to negate the impact this could have and ensure stability and sustainability of the anti-doping education system.

In addition to a lack of coordination, stakeholder insights indicated a lack of systematic regulation of anti-doping education. Organisations higher in the system (i.e., WADA, IFs and NADOs) do not appear to be formally monitoring the education activities of NGBs. For instance, individuals responsible for anti-doping education within NGBs answer to their line manager or the Board of their organisation, but do not provide an official report of their activities to a relevant anti-doping (i.e., UKAD or WADA) or sporting organisation (i.e., IFs). Highlighting this absence of monitoring, Stakeholder 1 stressed, “There’s nothing

formal and there's no recording, which we also think is something we should do.”

Stakeholder 8 corroborated this point when they said: “It's up to the international federations to make sure that their national federations are compliant ... But you know, can they, do they have to report their national NGBs' activities? No.”

Changes to education directives within the WADC (WADA, 2015) that make programmes compulsory might help to address the current lack of direction and regulation of anti-doping education activities, including those targeting coaches. However, it seems unlikely that WADA will be able to establish if Code signatories are meeting this expectation if they do not hold records of the education being provided by all sporting and anti-doping organisations (as confirmed by L. Cleret, former WADA Education Manager, personal communication, 20<sup>th</sup> September 2013). As yet, WADA does not appear to have taken steps to fully achieve its aim to, “facilitate and monitor stakeholder development, implementation and sharing of values-based education materials [by] continuing to collect and make available education materials and research developed by stakeholders and others, including social science research projects” (WADA, 2011, p. 12). In this vein, the lack of direction and regulation within the anti-doping education system is connected to a further issue – a paucity of communication. Specifically, stakeholders spoke of limited opportunities to learn from others. To illustrate, Stakeholder 10 suggested, “there needs to be some sort of mechanism where we can share best practice.” In fact, organisations were keen to, “benchmark and see what other organisations are doing” (Stakeholder 12). Stakeholder 10 explained that: “Other [organisations] may be sat there struggling with things that we could help with, and similarly, there's stuff that we can't quite sort out and they can help us with. It seems to be a shame, a lost resource a little bit.”

At a national level, UKAD has acknowledged the importance of bringing members of the sporting community together to share its anti-doping experiences and good practice examples by hosting an annual Clean Sport Forum (UKAD, 2014a). In 2014, the Forum

focused on changes to the 2015 Code and approximately 120 members of the UK sporting community attended the event. UKAD is also developing an online self-assessment facility to aid in achieving its objective of monitoring the education activities of all UK NGBs (Batt, 2012; UKAD, 2009). To support this work, further consultations to explore the feasibility of collaboration across organisations within the UK (and globally) would be beneficial. Having said this, it should be borne in mind that although the stakeholders called for more opportunities to learn from others, there was a sense that some organisations (or individuals within them) were dubious about giving details about their education provision. Some stakeholders seemed reluctant to agree to share solutions or resources with others free of charge when they have had to acquire and expend limited funding to develop them. Moreover, several stakeholders were initially hesitant to divulge details of their activities to the research team until anonymity was ensured, hence the limited participant details provided in the methods section. This appeared to be due to concerns about being judged as non-compliant or negligent, and might be reflective of the negative or punitive atmosphere that has surrounded the anti-doping field since its conception.

#### *4.4.3. Build trust and engagement through positive messaging*

A third key challenge of stakeholders providing anti-doping education for coaches was getting 'buy in' from people. Stakeholders commented that their anti-doping efforts were often perceived negatively because they are seen as focussed on "catching cheats" (Stakeholder 10). A number of stakeholders reported that they were trying to portray anti-doping education as a positive way of promoting clean sport messages, as well as emphasising that they were "here to help" (Stakeholder 9). Stakeholder 3 said: "So we're not going with sticks now, we're going with carrots...a more positive message rather than 'we're after your [sportspeople]'. It's made a huge difference."

Stakeholders explained that part of their work to date had been to win people over by developing relationships and this is reflected by Stakeholder 6 who said, “that’s taken a long time to build up a level of trust between [the clubs] and us.” However, some stakeholders had found it difficult to get ‘buy in’ to anti-doping efforts from people within organisations, clubs or frontline coaches. Stakeholder 8 revealed, “when you work in anti-doping you end up thinking it’s on everyone’s mind all the time, but you end up realising that it actually isn’t and it’s something on the side that a lot of people have to do.” In fact, one stakeholder said that even within anti-doping efforts as a whole, education is possibly the lowest priority:

Maybe the reality is that education comes after everything else. It’s no secret that right now anti-doping is run by lawyers and medical practitioners so education comes after that. It’s first set your rules, then make sure the doctors and substances and all that, and then you make sure that there’s the values and the education that goes with it. It’s just, if anti-doping is not a priority, we’re not the priority of anti-doping. So, we’re really all the way at the back. It shouldn’t be that, but it is.

Several stakeholders emphasised the importance of all parties valuing anti-doping education. For instance, Stakeholder 6 highlighted that if the person at the top of a club does not think anti-doping is important nobody below them will:

There’s a really good quote from Dick Pound, I think it says if the people advising the [sportspeople] don’t care about anti-doping then your [sportspeople] won’t care about it. I think that’s so true, if the person at the top really doesn’t care, nobody will care beneath them. And the [sportspeople] take their lead from that senior person, not from the physio and not from the conditioner ... This is probably a significant issue, getting the right culture in the club from management and coaches.

Emphasising the importance of individuals at every level of the system ‘buying in’ to the importance of anti-doping efforts, Stakeholder 7 recalled a conversation they had with

coaches about the promotion of anti-doping efforts by their sports organisations more broadly:

I asked them, ‘who should be driving the education within your sport? You’re the guys engaged at that sort of crucial level with the [sportspeople], should you be driving that education or who should be driving that?’ And the unanimous agreement in the room was, ‘no it needs to be driven at a higher level within the sport. It needs to be brought in by the Board and the Committee and driven formally within the sport’.

These findings support the views of Dick Pound and colleagues (2013), who reported that anti-doping is not considered ‘core business’ to many sporting organisations and that there is a low focus on education and prevention in particular. This low focus is reflected in the allocation of higher proportions of funding to testing and intelligence activities than education efforts. At a global level, WADA spent US\$689,700 on testing fees and only US\$76,271 on education in 2013 (WADA, 2014). In the UK, in 2013/14 UKAD’s outgoings for athlete testing, analysis and legal activities were £2,920,000 and £119,000 for intelligence activities, compared to outgoings of £391,000 on education (UKAD, 2014b). Representatives from these organisations have recently stressed the importance of education within anti-doping efforts. For example, WADA Director of Education and Project Development, Rob Koehler, commented that the dominance of detection in the WADC and minimal focus on information and education “could point to an explanation of why we have not been as successful as we could be in the fight against doping in sport” (Koehler, 2013, p. 7). However, if these statements are not being reinforced by global and national anti-doping agencies ‘putting their money where their mouth is’ and investing in education, then education is not likely to be highly valued by sports organisations or clubs lower in the delivery hierarchy.

Discussing the engagement of coaches in particular, Stakeholder 1 said, “people will look at it and say ‘anti-doping, drugs, I don’t do drugs, I don’t need to talk to you’”.

Similarly, Stakeholder 6 commented that coaches have, “this mind-set of ‘I don’t need to worry about it.’” This stakeholder elaborated that:

Often when you speak to coaches or team managers of these kind of [sportspeople] they say, ‘we don’t have these problems here. But I know other clubs or other schools, they’ve got a problem with that but we don’t.’ You could go around every single club and hear that: ‘We don’t have those issues’ ... Nobody’s saying you do, but why not let us come and run a session, let your [people] ask questions? ... I don’t think they always appreciate the significance of anti-doping until something has perhaps gone wrong. So until they’ve had a problem in their club.

This stakeholder also commented that:

...a lot of them are blinkered to their own [sportspeople]. They see a group of 30 of 40 [sportspeople] in front of them who they know well. And they say, ‘these are really great [people]. I’ve known them all for years, none of them would ever dope, but they’re doping, that team we play against and always lose, they’re all doping, look at the size of them, my [people] would never do anything like that. I’ve got thorough belief in all of them’. Then if one of them failed, they’d be mortified. And quite often that is the reaction of the coach...So there is a blinkered approach for some coaches.

Indeed, increasing the perceived relevance of anti-doping education sometimes involved the stakeholders “demystifying” the “there’s not a problem in my sport” barrier (Stakeholder 3). Whether targeting coaches, clubs or individuals within organisations beyond this, Stakeholder 3 said they, “try and get them to understand that anyone can [dope] ... saying that there’s not a problem in my sport is just ridiculous, because any [sportsperson] could make a doping decision tomorrow.”

## **5. Summary of findings**

The voice of the stakeholders was consistent on most matters irrespective of the position of their organisation within the anti-doping hierarchy. All stakeholders agreed with existing evidence that coaches are influential agents in the doping and anti-doping context and, as such, should have policy prescribed roles under the Code. Consequently, most stakeholders identified the worth in providing anti-doping education to coaches. In principle, they accepted that their organisations, as signatories to the Code, have a responsibility to include coaches in their target populations for education in order to ensure their behavior is Code compliant. In practice, however, the stakeholders' insights revealed that the national and international sporting organisations that are charged with operationalising these global directives are under strain; they are challenged due to a lack of resources, limited interagency coordination, and the burden of being negatively perceived as only concerned with 'catching cheats'. It could be argued that such challenges have resulted in compliance-driven anti-doping information programmes that prioritise the prevention of inadvertent doping by elite sportspeople – and this context is hindering the development of a strategic and coordinated approach to the provision of anti-doping education for coaches. These findings help to shape our understanding of the variability in anti-doping education provision at national and international levels, as highlighted in the introduction.

### *5.1 Implications and recommendations*

These unique accounts from the perspective of individuals responsible for providing anti-doping education have several implications for anti-doping education policy and practice. Therefore, based on the findings of this study we offer four recommendations that might help to address some of the challenges highlighted by those involved in managing anti-doping education.

*Recommendation 1:* Initiate efforts to normalise a coach-centred approach to anti-doping education, where programmes not only give consideration to coaches' sport and context, but also seek to balance the current compliance and knowledge-driven content (e.g., doping control, the Prohibited List, Whereabouts, nutritional supplements and medications) with a multifaceted approach to doping prevention. More specifically, instead of seeing doping in sport as a stand-alone issue, anti-doping education for coaches could be embedded within an education programme that underscores the role of the coach in creating a climate that protects the health and wellbeing of sportspeople alongside promoting their performance. Core topics within this programme could be both performance- and ethically-driven, as suggested by the stakeholders, including the prevention of anti-doping, injury, sexual harassment and mental illness. This would address calls from the WADA to deliver values-based education (WADA, 2011) and responds to the current emphasis placed on ASP to use "their influence on athletes' values and behaviours to foster anti-doping attitudes" (WADA, 2009b, p.99). This approach would also align with best practice in other prevention fields whereby multiple health compromising behaviours are addressed together in comprehensive education programmes (Backhouse, McKenna & Patterson, 2009). Clearly the feasibility and acceptability of this approach warrants investigation. In particular, there is a need to gain a better understanding of coaches' perceived and actual roles in anti-doping as this would allow the development of coach education programmes that are sensitive and responsive to the coaches' needs and wants (Knowles, Holton & Swanson, 2011). In turn, this should serve to increase coach engagement because it subscribes to the notion that adults are relevancy oriented.

*Recommendation 2:* Support research efforts that engage stakeholders at a macro level so that we develop greater understanding of the factors that influence organisational stakeholders' commitment to educating the different target populations outlined in the Code.

This study corroborates the conclusions of the report delivered to WADA by Dick Pound and colleagues (2013) that without considerable buy-in from those in senior positions of the sporting community - who set the agenda for sport - efforts to realise the aspirations of Clean Sport will be futile.

*Recommendation 3:* Foster greater communication both down and up the anti-doping hierarchy in order to ensure effective governance of the Code, as it applies to coach education (i.e., from WADA to IFs and NADOs and vice versa, as well as between IFs and NADOs with NGBs/national federations and vice versa). Additionally, in order to ensure sustainability of the anti-doping agenda in a time of economic constraints, WADA should continue to develop relationships, and Memorandums of Understanding, with influential organisations outside of the traditional delivery chain. For instance, through their relationship with the International Council for Coaching Excellence, WADA facilitated the integration of anti-doping into the International Sport Coaching Framework (ICCE, ASOIF, & LMU, 2013). In the longer term, a global system to monitor and synthesise anti-doping education activities should be developed. Both of these activities could be underpinned by the need to gauge the impact of the 2015 Code and in turn this will help to share models of good practice across the delivery chain.

*Recommendation 4:* Raise fiscal and human capital investment into anti-doping education for coaches (and other stakeholder groups) at every level of the hierarchy. As a percentage of WADA's total operating expenses, education has increased from 0.15% in 2012 to 0.25% in 2013. However, this is still only 1/10<sup>th</sup> the amount allocated to testing (which has reduced from 3.32% to 2.35%). While it is possible that the proportion of WADA funding given to education might continue to rise, another source of revenue could be obtained via engagement with major sports sponsors, where their social responsibility to facilitate Clean Sport might be utilised as a catalyst.

## *5.2 Study strengths and limitations*

This study extends our understanding of the anti-doping landscape by offering a unique account of the issues surrounding the provision of anti-doping education for coaches from those at the coalface, the anti-doping managers and coordinators. However, as with previous studies in the anti-doping field, socially desirable responding presents a possible limitation of the study findings. Developing this issue further, the participants may have been primed into thinking that the interviewer had expectations that the organisations should have been providing anti-doping education for coaches due to conducting research on the topic. To minimise this risk, the interviewer stated that their role was not to judge the organisations on the provision in place and emphasised that the purpose of the study was to learn from them in order to understand the status of anti-doping education for coaches and explore opportunities for future programme development. Moreover, the research team agreed to limit the demographic details to protect to identity of participants. With these steps in place, it was noted that a number of stakeholders were not afraid to say that they did not have education for coaches in place and others explained that they had no intentions to introduce this going forward. Furthermore, several individuals spoke frankly about their experiences in their organisation and perceptions of other organisations. Therefore, it was deemed that a good level of trust was established with the interviewees, which in turn allowed an authentic account to be captured.

Another limitation of the study was the homogeneity of the sample, in that personnel primarily represented UK based NGBs. Therefore, future studies might extend this line of enquiry and speak to more individuals working in IFs or NADOs. This would allow a greater depth of analysis of the co-ordination and co-operation between organisations at different levels of the anti-doping education system. Nonetheless, the current findings provide an in-depth insight into a specific group of organisations in a specific context (i.e., the UK as a

country). Notably, the current study findings form the first step in developing a logic model for coach anti-doping education. Specifically, target populations, intended outcomes, activities/outputs and resources/inputs have been identified and clarified from an organisational perspective. This information, and the continued use of a logic model approach, offers a tool for the ongoing planning and management of coach anti-doping education programmes that can facilitate their improved organisation and quality. As a next step, research should seek to achieve consensus, or identify gaps, between the current organisational insights and information from relevant legislation, strategic plans, literature reviews, scientifically generated knowledge (e.g., investigations/evaluations of programmes), and the perspectives of other key stakeholders (e.g., sports chief executives, board members, and coaches). The latter is of particular importance because this ‘bottom up’ approach increases the likelihood that stakeholders will value, support and ultimately ‘buy-into’ programmes. In the long-term this approach increases community ownership, decreases resistance to implementation, and enhances sustainability – all of which were identified as issues in the current research.

## References

- Backhouse, S., McKenna, J., & Patterson, L. (2009). *Prevention through education: A review of current international social science literature*. Canada: World Anti-Doping Agency.
- Backhouse, S., Patterson, L., & McKenna, J. (2012). Achieving the Olympic ideal: Preventing doping in sport. *Performance Enhancement & Health, 1*, 83-85.
- Bahrke, M. (2012). Performance-enhancing substance misuse in sport: Risk factors and considerations for success and failure in intervention programs. *Substance Use & Misuse, 47*, 1505-1516.

- Barkoukis, V., Lazuras, L., Tsorbatzoudis, H., & Rodafinos, A. (2011). Motivational and sportpersonship profiles of elite athletes in relation to doping behavior. *Psychology of Sport & Exercise, 12*, 205-212.
- Batt, A. (2012). Working together to demonstrate progress. *Clean Sport Forum* Loughborough University, UK: United Kingdom Anti-Doping Agency.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101.
- Canadian Centre for Ethics in Sport (2009, April 1). *Lifetime sanction for cycling coach who administered prohibited substance to an athlete*. Retrieved from <http://www.cces.ca/en/news>.
- Canadian Centre for Ethics in Sport (2010, January 7). *Conditioning coach gets 12-year sanction for steroid administration*. Retrieved from <http://cces.ca/en/news>.
- Cycling News. (2015, March 30). *Astana accused of systematic doping*. Retrieved from <http://www.cyclingnews.com>
- Donahue, E., Miquelon, P., Valois, P., Goulet, C., Buist, A., & Vallerand, R. (2006). A motivational model of performance-enhancing substance use in elite athletes. *Journal of Sport & Exercise Psychology, 28*, 511-520.
- Donovan, R. J., Egger, G., Kapernick, V., & Mendoza, J. (2002). A conceptual framework for achieving performance enhancing drug compliance in sport. *Sports Medicine, 32*, 269-284.
- Dubin, C. (1990). *Commission of inquiry into the use of drugs and banned practices intended to increase athletic performance*. Ottawa, ON, Canadian Government Publishing Centre.
- Dwyer, J., Hansen, B., Barrera, M., Allison, K., Ceolin-Celestini, S., Koenig, D., Young, D., Good, M., & Rees, T. (2003). Maximising children's physical activity: an evaluability

- assessment to plan a community-based, multi-strategy approach in an ethno-racially and socio-economically diverse city. *Health Promotion International*, 18, 199-208.
- Dwyer, J., & Makin, S. (1997). Using a program logic model that focuses on performance measurement to develop a program. *Canadian Journal of Public Health*, 88, 421-425.
- Fainaru-Wada, M., & Williams, L. (2006). *Game of Shadows*. New York, US: Gotham Books.
- Figved, S. (1992). Drug education programs for coaches and leaders. *Science Periodical on Research and Technology in Sport*, 12, 5-9.
- Fjeldheim, T. (1992). Sports instructors and leaders: Attitudes toward doping in sports. *Collegium Antropologicum*, 16, 343-348.
- Fung, L., & Yuan, Y. (2006). Performance enhancement drugs: Knowledge, attitude and intended behaviour among community coaches in Hong Kong. *The Sport Journal*, 9.
- Gibson, O. (2013, November 6). *UK Anti-Doping budget cut leads to fears over fight against drugs cheats*. Retrieved from <http://www.theguardian.com/sport>.
- Gonclaves, C., Coelho e Silva, M., Cruz, J., Torregrosa, M., & Cumming, S. (2010). The effect of achievement goals on moral attitudes in young athletes. *Journal of Sports Science and Medicine*, 9, 605-611.
- Goulet, C., Valois, P., Buist, A., & Cote, M. (2010). Predictors of the use of performance-enhancing substances by young athletes. *Clinical Journal of Sport Medicine*, 20, 243-248.
- Hardman, A., Jones, C., & Jones, R. (2010). Sports coaching, virtue ethics and emulation. *Physical Education and Sport Pedagogy*, 15, 345-359.
- Houlihan, B., & Melville, S. (2011). *Improving and proving: A handbook for the evaluation of anti-doping education programmes*. Canada: World Anti-Doping Agency.
- ICCE, ASOIF, & LMU. (2013). *International Sport Coaching Framework Version 1.2*. Champaign, IL (US): Human Kinetics.

- Kaplan, S., & Garrett, K. (2005). The use of logic models by community-based initiatives. *Evaluation and Program Planning, 28*, 167-172.
- Kirby, K., Moran, A., & Guerin, S. (2011). A qualitative analysis of the experiences of elite athletes who have admitted to doping for performance enhancement. *International Journal of Sport Policy and Politics, 3*, 205-224.
- Knowles, M., Norton, E., Swanson, R. (2011). *The adult learner*. (Sixth ed.). London, UK: Elsevier.
- Koehler, R. (2013). Increasing the role of education in prevention. *Play True, 1*. Canada: World Anti-Doping Agency.
- Laure, P., Thouvenin, F., & Lecerf, T. (2001). Attitudes of coaches towards doping. *Journal of Sports Medicine & Physical Fitness, 41*, 132-136.
- Lucidi, F., Zelli, A., Mallia, L., Grano, C., Russo, P., & Violani, C. (2008). The social-cognitive mechanisms regulating adolescents' use of doping substances. *Journal of Sports Sciences, 26*, 447-456.
- McLaughlin, J., & Jordan, G. (1999). Logic models: a tool for telling your program's performance story. *Evaluation and Program Planning, 22*.
- Mottram, D., Chester, N., & Gibson, J. (2008). Evaluation of a tutor network system for a national education programme on drug-free sport. *Sport in Society, 11*, 560-569.
- Nelson, L., Cushion, C., & Potrac, P. (2013). Enhancing the provision of coach education: the recommendations of UK coaching practitioners. *Physical Education & Sport Pedagogy, 18*, 204-218.
- O'Donnell, T., Mazanov, J., & Huybers, T. (2006). Towards a choice model of athletes' decision to use performance enhancing substances or methods: Factors and covariates. *ACSPRI Social Science Methodology Conference 2006*. The University of Sydney, Australia.

- Patterson, L., Duufy, P. & Backhouse, S. (2014). Are coaches anti-doping? Exploring issues of engagement with education and research. *Substance Use & Misuse*, 49, 1182-1185.
- Patton, M. (2002). *Qualitative Research & Evaluation Methods* (Third ed.). London, UK: SAGE Publications Inc.
- Pound, R., Ryan, A., Ayotte, C., Parkinson, A., & Pengilly, A. (2013). *Report to WADA Executive Committee on lack of effectiveness of testing programs*. Canada: World Anti-Doping Agency.
- Skills Active. (2012). *Coach Clean*. Retrieved from <http://shop.skillsactive.com>.
- Smith, A., Stewart, B., Oliver-Bennetts, S., McDonald, S., Ingerson, L., Anderson, A., Dickson, G., Emery, P., & Graetz, F. (2010). Contextual influences and athlete attitudes to drugs in sport. *Sport Management Review*, 13, 181-197.
- sports coach UK. (2008). *The UK Coaching Framework. A 3-5-7 year plan*. Leeds, UK: The National Coaching Foundation.
- Steinfeldt, J., Rutkowski, L., Vaughan, E., & Steinfeldt, M. (2011). Masculinity, moral atmosphere and moral functioning of high school football players. *Journal of Sport & Exercise Psychology*, 33, 215-234.
- Stewart, B., & Smith, A. (2008). Drug use in sport: Implications for public policy. *Journal of Sport and Social Issues*, 32, 278-298.
- Sullivan, P. (2013). *Enhancing coaches' confidence in confronting athletes who are suspected of doping*. Canada: World Anti-Doping Agency.
- UKAD. (2009). *UK Anti-Doping Policy*. London: UK Anti-Doping Agency.
- UKAD. (2012, July 18). *Online learning resource now available for coaches*. Retrieved from <http://www.ukad.org.uk/news/article/coach-clean-launch>.
- UKAD. (2014a, September 26). *Clean Sport Forum 2014 focuses on 2015 Code implementation*. Retrieved from <http://www.ukad.org.uk/news/article/CSF-2014-focuses-on-2015-code-implementation/>.

- UKAD. (2014b). *UK Anti-Doping Annual Report and Accounts 2013/14*. Retrieved from <http://www.ukad.org.uk/news/article/ukad-publishes-annual-report-and-accounts-2013-14>.
- Ungerleider, S. (2001). *Faust's Gold. Inside the East German Doping Machine*. New York, US: Thomas Dunne Books.
- USADA. (2012). *Reasoned decision of the United States Anti-Doping Agency on disqualification and ineligibility. Report on proceedings under the World Anti-Doping Code and the USADA protocol*. United States Anti-Doping Agency (Claimant) v. Lance Armstrong (Respondent). Colorado Springs: United States Anti-Doping Agency (USADA).
- WADA. (2007). WADA launches Coaches' Tool Kit. *Play True*, 1. Canada: World Anti-Doping Agency.
- WADA. (2009a). Global Anti-Doping Organization Chart. Canada. world Anti-Doping Agency. Retrieved from <https://www.wada-ama.org/en/resources/doping-control-process/global-anti-doping-organization-chart>.
- WADA. (2009b). *World Anti-Doping Code (WADC)*. Canada: World Anti-Doping Agency.
- WADA. (2010). *WADA Launches CoachTrue - New Anti-Doping Learning Tool*. Retrieved from <http://www.wada-ama.org/en/News-Center/Articles>.
- WADA. (2011). *Strategic plan 2011-2016*. Canada: World Anti-Doping Agency.
- WADA. (2012). *2012 Annual Report*. Canada: World Anti-Doping Agency.
- WADA. (2014). *2013 Annual Report*. Canada: World Anti-Doping Agency.
- WADA. (2015). *World Anti-Doping Code (WADC)*. Canada: World Anti-Doping Agency.
- Walsh, D. (2007). *From Lance to Landis. Inside the American Doping Controversy at the Tour de France*. New York, US: Ballantine Books.
- Weiss, C. (1998). *Evaluation* (Second ed.). London: Prentice-Hall International (UK) Limited

Whitaker, L., Backhouse, S., & Long, J. (2014). Reporting doping in sport: National level athletes' perceptions of their role in doping prevention. *Scandinavian Journal Of Medicine & Science In Sports*, 24.

W. K. Kellogg Foundation. (2001). *Logic model development guide. Using logic models to bring together planning, evaluation and action*. Michigan, United States: WK Kellogg Foundation.

Zaccardi, N. (2014, December 17). *Jon Drummond banned for 8 years after assisting Tyson Gay's doping*. Retrieved from <http://olympictalk.nbcsports.com/2014/12/17/jon-drummond-banned-tyson-gay-doping-usada-track-and-field>.