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Title:

The New Front in the War on Doping: Amateur Athletes

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## **Abstract**

The war on drugs is usually associated with criminal policies aimed at stemming consumption of drugs such as heroin, cocaine, and cannabis, less so with enhancement drugs like those used in sport. As drug use in sport, or doping, has become more visibly widespread, policies aimed at combating the issue have become more restrictive, intrusive, and harsh. In this article we draw new comparisons between the wider war on drugs and recent developments in sports anti-doping. We identify a growing trend towards criminalisation of traffickers and users, and associate that with another growing trend: the testing of amateur athletes. This article reviews the current anti-doping system, including the recent amateur policies, then considers of the results of one such program in amateur cycling. We then shift to consider the possible implications for amateurs of criminal doping laws and the recent debates about allowing medical exemptions for therapeutic use of banned substances. We show that drug use in sport can be understood as a new front in the war on drugs, with some extreme measures and many negative unintended consequences. To remedy this, we argue that amateur athletes require a separate anti-doping policy focused on minimising harms of use.

## Introduction

The phrase 'war on drugs' is most often used in connection with national policies targeting socially problematic drugs like heroin, cocaine, and cannabis. Regulations criminalising suppliers and users are the strategies of this war, and the problem is broadly assumed to be definable. Critical researchers challenge both that latter assumption and the methods used to police and punish producers, dealers, and consumers. Within that body of work the war on drugs paradigm, as both policy instrument and critical discourse, is not immediately applicable to sports. There are three likely reasons for this:

- i) sports drugs policy (anti-doping) outcomes have not had implications for other fields of social life: policing resources, criminal law proceedings, increase in prison populations;
- ii) drugs used in sports contexts are not always those demonized and problematised in wider society;
- iii) anti-doping policy is popularly seen as a necessary antidote to systematic cheating and corruption, and anti-doping agencies are thus seen as making a positive social contribution.

As harsh drug non-sport policies seem to be waning in some corners of the world, in recent years doping, and the attempts to regulate it, has moved to the centre of conversation on sport. Calls for increased surveillance of athletes and harsher penalties grew in volume and frequency in the lead up to the 2016 Summer Olympics, as scandals involving state-sponsored doping in Russia (McLaren, 2016), the hacking of the World Anti-Doping Agency's athlete

database (WADA, 2016), and the re-testing of anti-doping samples from Olympic Games dating back to 2008 that led to multiple retroactive disqualifications (IOC, 2016). Efforts to address anti-doping shifted towards criminalising doping at the national level. Laws criminalising various doping-related activities already existed in several countries (Murphy, 2013), but in 2016 Kenya approved a law including penalties for use (Mygov, 2016) and the United Kingdom's Parliament debated a proposed amendment to criminalise doping (BBC, 2016). Hacked medical records brought new scrutiny to athletes' use of medical waivers, known in sport as therapeutic use exemptions (TUEs), in order to use a banned substance without facing penalty. Similarly to the war on drugs debate, the policy tools used have been criticised by researchers (Kasyer, Mauron & Miah, 2007; Moller, 2014), but the organisations responsible for controlling doping continue to follow the road of enhanced surveillance, testing, and punishments, regardless of the high numbers of inadvertent positives (de Hon, 2016).

Criminalising doping and questioning the TUE system are not new debates in sport. What is different in anti-doping efforts in recent years, however, is the shift away from the elite athlete focus towards amateur and recreational athletes. The same rules that were designed to stop doping among international-level athletes are being transferred to non-elite, amateur sporting communities. Two major sports organisations in the United States, USA Cycling (USAC) and New York Road Runners (NYRR), made changes to their anti-doping programs that put a new focus on testing non-elite competitors in 2016. Other sport organizations, such as the International Triathlon Union and the International

Boxing Association, have had amateur testing programs for several years. Including amateurs may not seem problematic at the outset, as expecting athletes to follow rules about substance use seems reasonable. As with many punitive-based drug policies, the consequences of including amateurs in a system designed for elite athletes are much more complex. Adding in the renewed focus on criminal doping laws and critiques of the TUE system, these new amateur testing programs carry legal, social, and health risks for athletes that go beyond sport.

These policies and their implications for amateur athletes are the focus of this article. We begin with an overview of the reasons for and development of the current anti-doping system, including the recent amateur policies. From there we consider the results USAC's testing program has had so far for athletes who tested positive. We then shift to consider the possible implications of criminal laws for amateurs, using the Kenyan law and debate in the U.K. as cases, and the recent debate around the validity of TUEs. We argue that anti-doping agencies and sports federations need a separate policy for amateur athletes focused on minimising harms of use through targeted education and a health-focused approach.

### **Approach**

This article builds upon early case study work by the authors (Henning and Dimeo, 2015), which used media coverage and arbitration documents to contextualise and classify specific anti-doping cases. We aim here to extend that discussion by drawing upon discourses of drug criminalisation and legalisation in

both sports and social drug use. To do so, we develop a macro-level analysis of global issues through media and policy sources. We analyze anti-doping policies developed by the World Anti-Doping Agency (WADA), cases involving amateur athletes tested under current policies, and new proposals for further escalating rules on doping in sport. In our analysis of WADA policies we used the WADC and Prohibited Substances List, which are the foundational documents governing the global anti-doping program. Drawing on the historical development of anti-doping policies and critiques of the resultant system, we provide a review of the rationale for the policies as they stand, and the underpinning philosophy of anti-doping. We then review the policies regarding anti-doping testing for amateur athletes developed by USAC and NYRR.

Though sports such as boxing and weightlifting include high-level amateurs in their testing programs, and student-athletes are tested in inter-university competition, USAC and NYRR include competitive amateurs as well as recreational participants. The large majority of participants do not seek to place among the top competitors at events, and may participate for reasons completely unrelated to winning. These athletes represent the full range of ages, experiences, motivations, and lifestyles. Amateurs, then, cannot be considered as a homogenous bloc or as necessarily similar to elites. Further, these organisations oversee many mass participation events each year that attract thousands of participants to each, making their impact immediate and relevant for a large number of amateurs. For these reasons we examine how these two policies will be implemented and their rationale.

Following this, we examine two developments within anti-doping: the use of national level criminal laws to deter and punish doping among athletes and the debates around the legitimacy of the TUE system. We draw on media coverage from news outlets of record providing reports of the criminal law development in Kenya and proposals in the U.K. Parliament. These reports were analyzed for background to the proposals, specific policy proposals put forth by government officials, any ensuing debate, and the evidence or argument offered by any officials or stakeholders.

One of the central challenges of policy case studies is pre-defining sources of information and modes of analysis. As outlined above, several key sources are publicly available documents which allowed us to understand the policy frameworks and institutional arrangements that support, guide and help implement anti-doping. These documents pertain to global sport, national governments and localised sporting agencies. The emergence of increased anti-doping at amateur levels is in fact a localised decision within a global paradigm. Media sources have proved very helpful in highlighting cases where these decisions are made, and are manifest in testing and sanctioning of athletes. Methodologically, we need to treat such sources with healthy scepticism, seeking to cross-reference facts where possible, and avoiding the simple repetition of basic claims and subjective inferences. Thereafter, we found information on the websites of sports organizations (for example, decisions to sanction specific athletes), we checked blogs and other internet forums for other insights, and where available reviewed arbitration documents. In essence, we took a case



study approach, being led by the questions, and searching for adequate sources which, due to the sensitive nature of the subject, are not always fully open and transparent.

### **Background: Drug use in sport**

Anti-doping efforts are based on a strategy of surveillance, detection, and punishment, similar to aspects of the war on drugs. Researchers have noted the links between efforts to stem illicit drugs outside of sport and the development of anti-doping policies within sport (Coomber, 2013; Dimeo, 2009; Hoberman, 2005; Møller, 2009). Doping substances were not always banned in sport, as they were accepted in professional sports during the first half of the 20<sup>th</sup> century (Christiansen, 2010). However, use of performance enhancing drugs (PEDs), or doping, was considered to directly conflict with amateur sporting values (Christiansen, 2010; Gleaves and Llewellyn, 2014). Gleaves and Llewellyn (2014) detail the early regulations around doping, going as far back as the 1920s. These early efforts paved the way for later regulations beginning in the 1960s and expanding through the doping scandal-ridden decades of the 70s, 80s, and 90s, such as Ben Johnson's positive test at the 1988 Olympics and the 1998 Festina Affair at the Tour de France (Gleaves and Llewellyn, 2014). These culminated with the creation of WADA in 1999.

The current approach to doping parallels the legalistic prohibitionist approaches of war on drugs policies (Mazanov, 2013; Stewart & Smith, 2010). The World Anti-Doping Code (WADC), which went into effect in 2004, indicates

that anti-doping's purpose is to preserve the 'spirit of sport', which it calls an 'intrinsic value' of sport and encompasses values such as ethics, health, dedication, joy, and respect for others (WADA, 2015: 11). Researchers have critiqued the spirit of sport as an unclear concept underpinning anti-doping (Mazanov & Conner, 2010; Smith & Stewart, 2015; Waddington, Christiansen, Gleaves, Hoberman & Møller, 2013). Further critique has been levelled against the inclusion of health as a reason for banning a substance, based on the paternalism of this approach (Kayser & Broers, 2012) as well as the lack of practical health promotion or protection for athletes afforded by anti-doping (Henning, 2016; Kayser & Smith, 2008). The WADC details anti-doping rule violations (ADRV), of which there are ten types (WADA, 2015). Only two of these involve actual use or attempted use of a banned substance; the others pertain to possession, trafficking, administration of substances, sample tampering, refusing to provide a sample, failing to provide whereabouts information, complicity in another's use, and associating with a prohibited person (WADA, 2015: 18-24).

#### *Role of WADA and NADOs*

WADA is best understood as an umbrella organisation that provides a framework for regulating numerous drugs and methods. The WADC is not a single policy, but the regulatory blueprint from which the national and regional anti-doping organisations—NADOs and RADOs, respectively—implement and carry out anti-doping programs. Though WADA is the body that is meant to harmonise anti-doping policies globally, each local anti-doping organisation must

work within local laws and budgets, and respond to the needs of athletes. While the Prohibited List always applies to athletes of WADC signatory sports and countries, WADC enforcement can vary by NADO/RADO. Areas where there may be difference include the amount and quality of educational materials, the TUE process, and in the number and frequency of tests carried out.

Anti-doping policies can be more intrusive for individuals than non-sports policies by collecting urine or blood samples, requiring information on individuals' physical location for random testing, and policing athletes' associates. While some war on drugs policies did seek to deter and catch illicit drug users (Buchanan & Young, 2000), many national and international policies were intended to catch and prevent drug traffickers (Bagley, 1988; Tonry, 1994). Though trafficking is an anti-doping violation, individuals remain the central targets of WADA's program. WADA's efforts are based on testing athletes' biological samples for banned substances (WADA, 2015). Athletes are held to the standard of strict liability, meaning 'it is not necessary that intent, Fault, negligence, or knowing Use on the Athlete's part be demonstrated by the Anti-Doping Organization in order to establish an anti-doping rule violation' (WADA, 2015: 141). Because anti-doping tests cannot determine intent, athletes may test positive for a substance and receive a competition ban even if they did not intend to ingest the substance or seek to gain a performance benefit (de Hon & Coumans, 2007). If an athlete can show they took in the substance unintentionally, he or she may receive a reduced ban (WADA, 2015). In order to facilitate testing, athletes in the registered testing pool are required to keep local

testing agencies apprised of their whereabouts, including providing a one-hour time slot each day when they will be available in a specified place for testing (WADA, 2017b).

Anti-doping agencies may also sanction an athlete for associating with a support person<sup>1</sup> who is currently serving an anti-doping ban. WADA does allow for non-sporting relationships (i.e. coach serving a ban who is also parent to an athlete), but athletes must show that the relationship is a non-sport association. WADA prohibits a sporting relationship with individuals who are 'not subject to the authority of an Anti-Doping Organization, and where Ineligibility has not been addressed in a results management process pursuant to the WADC, has been convicted or found in a criminal, disciplinary or professional proceeding to have engaged in conduct which would have constituted a violation of anti-doping rules if WADC-compliant rules had been applicable to such Person' (WADA, 2015: 23). Therefore, an athlete may receive a sanction for 'associating' with a person who is not subject to the WADC and who has not been sanctioned by a sports body. The intent of this regulation would appear to be preventing athletes from associating with doping traffickers or with support persons who may pressure athletes to use banned substances, though the enforcement remains at the individual athlete level.

### *Prohibited substances*

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<sup>1</sup> WADA defines Athlete Support Personnel as: 'Any coach, trainer, manager, agent, team staff, official, medical, paramedical personnel, parent or any other Person working with, treating or assisting an Athlete participating in or preparing for sports Competition.'

Along with the WADC, WADA publishes an annually updated Prohibited List of all substances that are banned for athletes (WADA, 2017a). As its name implies, the list is the centrepiece of WADA's prohibitionist approach to substance use. Though some substances on the list are banned only in competition, the large majority is prohibited at all times (WADA, 2017). Highly controversial inclusions on the list of Prohibited Substances are recreational drugs, including those without a likely performance enhancing effect, such as cannabis (WADA, 2017a). Sports scholars have debated the inclusion of such substances (Henne, Koh & McDermott, 2013; Waddington et al., 2013) and noted the links between the war on drugs efforts and cannabis being banned (Kayser & Broers, 2012). Cannabis is also a problematic inclusion given the associated-persons rule violation. If an athlete has a relationship with any athlete support person (see footnote 1) who has been convicted of cannabis use or possession, it would follow that the relationship would be a rule violation. Further complicating matters is the uneven liberalisation of recreational cannabis around the world, as this could lead to inconsistencies in enforcement.

An underlying assumption of this legalistic approach is that athletes will rationally weigh the decision to use banned substances—performance benefits versus the likelihood of being caught—and that tough punishments will deter athletes from doing so (Donovan, Egger, Kapernick & Mondoza, 2002; Strelan & Boeckmann, 2003). The WADC lays out the punishments if an individual commits an ADRV, including a four-year competition ban for a first time positive test, double the length of the previous maximum ban (WADA, 2015: 61). While some

research has demonstrated that deterrence may effect doping decision-making (Donovan, Egger, Kapernick & Mendoza, 2002; Strelan & Boeckmann, 2006), others have found that contextual factors may be more effective than the fear of official sanction (Allen, Taylor, Dimeo, Dixon & Robinson, 2014; Petroczi & Aidman, 2008). In a study of Australian athletes, Stewart and Smith (2010) concluded that morality and deterrence-based polices are unlikely to end drug use in sport. Athletes on the cusp of elite status understood how legal enhancement use and banned substance use could be considered on the same spectrum, and saw similar reasons for each (Outram & Stewart, 2015). Indeed, some athletes may view doping as a next step from legal enhancement methods already in use (Petroczi & Aidman, 2008). Still others may see or suspect rivals of doping and feel pressured to do so themselves, resulting in doping becoming an acceptable norm among athletes (Stewart & Smith, 2010).

#### *Therapeutic Use Exemptions*

Many national-level criminal drug policies have their roots in three UN Conventions on drugs—those in 1961, 1971, and 1988 (Fielding, 2014). These required signatories to restrict the use of psychoactive substances to medical settings (Feilding, 2014; UNODC, 2013). Illicit drugs were understood to have potential medical uses, even if specific countries prohibited medical use (Feilding, 2014). Similarly, the list of Prohibited Substances includes drugs commonly used therapeutically (Fitch, 2013). Recognizing this, WADA developed a policy of issuing TUEs. TUEs are waivers allowing athletes to use banned substances when medically necessary for both acute and chronic

conditions. The necessity of TUEs seems clear—athletes should not be precluded from receiving necessary medical treatment, but athletes must demonstrate that necessity to prevent misuse. However, critics of such exemptions argue that TUEs are easily abused and offer athletes an avenue for legal doping (Millar, 2016).

### *Drug use among non-elites*

It is clear from previous studies of adjudicated doping cases that non-professional athletes in some sports do use banned substances (Henning & Dimeo, 2015). However, reliable data on how many amateur athletes overall engage in doping is difficult to find and the level of knowledge of what is prohibited may vary considerably. One issue is how various forms of athletic participation are defined, as motivations and choice of substances may vary by participation. Research into non-elite sport or fitness doping has focused in a few broad categories: bodybuilders, fitness enthusiasts, and non-elite sports competitors.

Bodybuilders are closely linked with anabolic steroid use in popular culture, where males are commonly depicted as monstrously muscled or suffering from so-called rages (Christiansen, Vinther & Liokaftos, 2016) and women as overly masculinised freaks (Shilling & Bunsell, 2009). Some relatively early survey work focused on young people and steroid use. Buckley et al (1988) found that 6.6% of 12<sup>th</sup> grade students had used these drugs. A study of anabolic steroid users revealed that athletic performance was not a motive for use while improving strength, gaining muscle mass, and improving overall attractiveness

did motivate use in a majority of respondents (Cohen, Collins, Darkes & Gwartney, 2007). Research with bodybuilders in South Wales found that steroid use was justified by reaching self-designed goals, demonstrating to doubters that use is not necessarily bad, and the relative lack of risk in use (Monaghan, 2002). Fitness enthusiasts—those who frequent fitness centres and/or exercise for non-sport purposes—are not always immediately associated with doping. However, research on use of PEDs among fitness centre users has demonstrated relatively high levels of use, though it is important to note that fitness centre users may have different goals than amateur or recreational sportspersons and therefore have different motivations for PED use. A survey of 500 German fitness centre users found that 12.5% reported using various PEDs (Simon, Striegel, Aust, Dietz & Ulrich, 2006). A similar study on Dutch fitness centre members reported a PED use prevalence rate of 8.2%, with stimulants for weight loss the highest category of use (Stubbe, Chorus, Frank, de Hon & van der Heijden, 2013).

Non-elite sportspersons are athletes who compete, but at levels below national teams and not to earn a livelihood. Use among non-elite athletes has tended to focus on endurance athletes, as running, cycling, swimming, and multi-sport events have large competitive fields with multiple levels of competition. Research into doping cases in American cycling, for instance, found that use behaviours varies by both competitive level and age group, with masters competitors (aged 40+) comprising their own use category (Henning & Dimeo, 2015). A study of German amateur and recreational athletes found that the proportion of those who had doped at any point in their lives was between 3.35%



and 10.55% (Frenger, Pitsch & Emrich, 2016). Even athletes who do not use PEDs may understand the reasons one might engage doping, as well as actively seek out non-banned substances to gain a performance benefit. For example, a study of Australian club-level cyclists reported that athletes perceived some form of drug use as necessary for advancing to the professional level (Outram & Stewart, 2015). These cyclists also reported using supplements as a necessary component for success at lower levels of competition. A study of non-elite road runners found athletes were willing to use a range of supplements for performance enhancing purposes, despite the risks of inadvertently ingesting banned substances (Henning, 2015).

Taken together, these studies demonstrate the wide variability in banned substance use among amateur, recreational, and fitness athletes. While these studies show that these substances are being used, they also illustrate how a policy developed for elite or professional athletes may be ill suited to athletes whose goals may centre on appearance, anti-ageing, or other non-performance related areas. Rather than focusing on the needs of these various populations, sport and anti-doping organizations have largely ignored these differences and instead begun to extend their policies, in whole, to lower and non-competitive levels.

#### *Amateur-targeted programs*

National Anti-Doping Organizations (NADOs) are the bodies charged with carrying out anti-doping tests and issuing competition bans for athletes who commit an ADRV (WADA, 2015). Under the 2015 WADC, NADOs' purview was

expanded into the world of amateur and recreational sport and fitness (WADA, 2015). The changes in global policy alongside expanded ideas of the remit and purpose for NADOs led to increasing calls for drug testing amateurs. USA Cycling (USAC), the national governing body of cycling events in the U.S., and New York Road Runners (NYRR), one of the largest running race organisers in the world, stepped up efforts to bring anti-doping testing to amateur athletes. In cycling, this was supported by high profile cases of older riders using EPO, stories considered important enough for national media coverage (Drier, 2012).

USAC, which has tested amateur athletes under its RaceClean program since 2013, added an anti-doping testing fee to licenses to cover the costs of increasing testing among amateurs (Cycling News, 2013; Whiteman, 2017). USAC reported that it exceeded its testing goal for the year 2016 to complete 185 tests, more than tripling the number of tests conducted during the previous year (RaceClean, 2017). This is a sharp upturn in the number of tests to be sure, though the 2016 testing rate remains very low given USAC's membership was more than 67,000 in 2015 (USA Cycling, 2016). The RaceClean webpage puts the program focus on cheating, clean sport, and fairness to clean athletes, though there is no mention of athlete health (USA Cycling, 2017).

NYRR introduced plans to expand its previous elite-focused testing program to amateur athletes, though focusing initially on top finishers only (NYRR, 2017a). NYRR has a history of not inviting elite athletes with a previous doping sanction to compete in their races, as well as providing funding for extra out of competition testing on athletes registered in the World Marathon Majors

pool (NYRR, 2017). In its explanation for what the Run Clean program is meant to do and why, NYRR notes that healthy competition is a priority and seems to put it on equal footing with fairness (NYRR, 2017). NYRR plans to begin its testing program in early 2017.

Weakening these approaches is the lack of resources for in-competition testing and the absence of out-of-competition testing. Knowledgeable dopers can ensure any drugs used for training gains are washed out by event time. Perhaps more significantly it is far from clear how out-of-competition testing might be operationalised if there were sufficient funds to do so. Critics might argue that recreational athletes should not be governed in the same ways as professionals. In the following section, we describe the ways criminalisation proposals and debates about the fairness of TUEs have escalated the war on doping and the implications for amateur athletes. Though both topics stem from concerns within elite sport, efforts to target amateur athletes under existing anti-doping policies would see these athletes included in such changes.

### **Current debates: criminalisation and TUEs**

#### *Criminalisation*

Due to its position as a 'private law foundation' (WADA, 2017), WADA and its affiliated NADOs do not have broad legislative or police powers and have no jurisdiction outside of sport. Anti-doping agencies must follow local laws and coordinate with police forces and other agencies for some investigative work (Hoberman, 2012). In February 2015, WADA President Craig Reedie called for more countries to pass strict doping laws (Reuters, 2015). In a statement

following the Second International Conference on the Pharmaceutical Industry and the Fight Against Doping, Reddie noted that due to the widespread use of PEDs, doping has become a social issue rather than one relegated to sport (Reddie, 2015). As a wider response to doping, Reddie suggested, 'If governments can introduce relevant laws, and applicable penalties to prevent these banned substances getting into the hands of athletes, then police will act and the scourge of doping can be prevented' (Reddie, 2015). It was unclear what Reddie was asking for specifically, but the language of laws, penalties, and police action seemed to indicate that some form of criminalisation was the goal.

National-level laws criminalising doping undermine one of WADA's foundational purposes: harmonising anti-doping regulations globally (WADA, 2015). To avoid conflicting rules and uneven application of rules between countries and sports, WADA is meant to standardise policies regarding, among other things, what substances and methods are banned, testing and analysis protocols, how sanctioning is determined and given out, and the appeals process. National laws against doping, however, mean that athletes are treated differently depending on their nationality. As a non-governmental entity, WADA has no ability to ensure national laws are consistent or fairly applied. Enforcement may be uneven given differences in police purview, judicial processes, and varying requirements for evidence.

WADA issued a statement in October 2015 addressing criminalising doping, which sought to clarify the Agency's position on doping laws. It states, 'the Agency does not believe that doping should be made a criminal offence for

athletes' since it has a laid out process of tests, sanctions, and appeals within the sporting world (WADA, 2015). It goes on to offer support for laws that ban and punish traffickers of doping substances before noting the effectiveness of criminal laws for 'catching athlete support personnel that possess or traffic performance enhancing drugs' because they are more willing to cooperate when threatened with prison (WADA, 2015). What the statement failed to address is that the 2000 Italian law it referenced criminalised use and possession of doping substances by athletes in addition to non-athlete traffickers (Parlamento Italiano, 2000). While the penalties for supplying or trafficking doping substances are harsher, doping athletes may be fined or imprisoned (Parlamento Italiano, 2000). Similar laws exist in other countries, including broad doping-specific laws in Germany and France and earlier anti-steroid laws in the US and UK. In 2016 moves towards criminalisation accelerated in Kenya and the UK.

Much of the rationale for anti-doping generally and for criminalisation specifically, echoes the desire of non-sport drug warriors, especially those in the U.S. In the late 1980s the Office of National Drug Control Policy decided to use reductions in the instances of drug use as the most important metric in its strategy (ONDCP, 1989; Reuter, 2013). This came at the expense of efforts to curtail harms related to use and instead continued the use of sentencing minimums for drug violations, leading to massive increases in the number federal prison inmates (Reuter, 2013). Despite widespread belief that the broader war on drugs has largely failed, anti-doping takes a similar punitive approach. WADA and national-level criminal laws intend to eradicate use through detection and

sanctioning (Sumner, 2017). Though the focus of current anti-doping efforts has largely been on elite and professional athletes competing at the highest levels and often as their livelihood, the shift to include amateurs opens the possibility of penalty to a huge new population of athletes.

Criminalising doping raises questions about how such laws would be enforced. For instance, where the burden of proof at the CAS rests on the athlete, this is often not the case in non-sport criminal courts. The principle of strict liability would also be questioned, as intent is often a factor outside of sport. Intent is a prescient issue for doping cases, as a high proportion of cases are likely due to inadvertent use (de Hon, 2016). Threats of imprisonment are also troubling against the backdrop of the war on drugs. Illicit drug policies led to some record high incarceration rates, from which some countries are only beginning to recover (Patten, 2016). Given the newly expanded pool of athletes that would be subject to such laws, there is a risk that large numbers of athletes could end up jailed. Incarceration for non-violent drug crimes has been shown to lead to increased engagement with crime and may limit career and other opportunities post-release (Buchanan & Young, 2000; Chin, 2002; Van Olphen, Eliason, Freudenberg & Barnes, 2009). Whether such threats are likely to curb use remain unclear.

Criminal penalties for doping carry risks for amateur athletes, as they are less likely to be knowledgeable of anti-doping rules. Amateur athletes must seek out anti-doping information on what substances they may and may not use and are often uninformed on what is banned in sport (Henning, 2015). Athletes

across sporting levels have reported relying on a range of sources of information about doping (Erickson, McKenna & Backhouse, 2015; Johnson, Butryn & Masucci, 2013). Unlike many elite athletes who have access to sports medicine professionals, amateurs may have less access to expert advice. A recent study of doping cases found that up to 40% may be from inadvertent use (de Hon, 2016). Athletes unaware that prescriptions or supplements may lead to a positive doping test are at a distinct disadvantage when it comes to remaining within the rules or avoiding prosecution under laws criminalising use.

Criminal laws may also be ineffective at actually countering doping among amateurs. Given the high operating costs, amateur testing programs can only include a handful of finishers at each event. In events that attract hundreds or thousands of participants, athletes can easily recognise that their chances of being found in violation of the criminal law are very low. This runs counter to deterrence goals: if you are not a top finisher you are ostensibly allowed to continue any substance use unchecked. Testing in this scheme would not deter athletes outside the top event finishers, as there is virtually no threat of being tested. Athletes may be even more unlikely to be deterred by the threat of criminal punishment, as they must first believe the risk of detection is high to be deterred by threats of retribution. In this way, criminalising doping is unlikely to have a significant deterrence effect.

Criminalising doping also adds an informal punishment significant outside the sporting world—stigma. Doping ranks among the highest sporting taboos. Coomber (2013) observed ‘the label that being a doping cheat carries with it in

terms of both stigma and punishment rivals that of the heroin addict in their relative contexts' (p. 16). Because doping is defined as committing an ADRV within the context of strict liability, athletes who test positive are dopers. This is true regardless of intent or how the violation occurred. Amateur athletes who are less likely to be knowledgeable about the finer points of avoiding insidious banned substances are at high risk of enduring the social costs of being labelled a doper. Further, deterrence is unlikely when athletes are vulnerable to contaminated or mislabelled products resulting from poor regulation—a system outside their control.

### *TUEs*

The debate around TUEs was enhanced when athlete files were hacked from WADA's 2016 Rio Olympics TUE database by the group known as Fancy Bear (WADA, 2016a). The group published data on 41 athletes representing 13 countries, including some well-known international competitors (WADA, 2016). The focus of the leaked data was TUEs granted to athletes competing in Rio. This led to a media debate about the 'grey area' of doping (Millar, 2016), the various ways athletes could manipulate the TUE system to enhance performance (Game Theory, 2016), and the disparities between sports and countries in granting TUEs (Strashin, 2016). WADA, sports federations, and athletes defended the athletes granted TUEs and the system under which such judgements were made (Guardian, 2016). Many stressed that athletes with TUEs had followed the rules and gone through proper channels (Strashin, 2016).



Fears around athletes seeking to abuse the TUE system for bettering their performance parallels fears that those seeking to legalise medical cannabis are really just looking for a legal way to misuse drugs (Bostwick, 2012; Seely, Prather, James & Moran, 2011). The number of TUEs has grown rapidly, as the Sports Integrity Initiative (Brown, 2016) reported a 48% increase in the number of TUEs granted between 2014 and 2016. WADA explained this as being a function of better compliance with the Anti-Doping Administration and Management System (ADAMS) (Brown, 2016). This seems to indicate that before the wide adoption of ADAMs, athletes may have neglected to seek out TUEs for banned medications. This raises further questions about the effectiveness of infrequent out of competition testing for detecting use, as well as any deterrent effect of testing programs.

Criticising the TUE system and the athletes who use it is also at odds with the underpinning notion of the spirit of sport (WADA, 2015). Athletes who go through the TUE process are within the rules of the sport, but also attempting to compete fairly, respectfully, and healthily. Calling the TUE policy into question assumes the integrity of athletes is always suspect. TUEs and the amateur-specific Recreational Therapeutic Use Exemptions (RTUE) are given only when athletes can demonstrate to a review panel that a substance is required for medical reasons. TUEs are not all granted; USADA reported 402 TUEs were granted out of 653 applications in 2015 (USADA, 2015). Though the number of RTUEs is likely to go up (USADA does not provide numbers for RTUEs), it is unclear whether more exemptions being granted. This is especially problematic

for amateur athletes who may be older, have chronic illnesses, and/or use legal lifestyle medications that may not meet the anti-doping definition of necessary. These include recreational cannabis as more localities liberalise policies governing use. RTUEs are currently only available to athletes governed by USADA. Amateur athletes in other countries, though unlikely targeted in the same way as USAC or NYRR athletes, must use the regular TUE processes originally designed for elites.

In a pragmatic sense, would, NYRR expect all 50,000+ participants in the marathon, for example, to complete the TUE process for all medications and have all their supplements checked as 'clean'. The resources required for this far outweigh any benefit to the athletes or to 'clean sport'. Nonetheless, if the organisation introduced random testing during the event, it remains possible that a low-ranking runner would test positive for a common substance like pseudoephedrine or methylexamine. As such, transferring TUE policies to amateurs is fraught with a wide range of dilemmas.

### **Recent cases**

#### *Kenya and UK*

Efforts to pass a criminal anti-doping law in Kenya came in the run up to the 2016 Summer Olympics, after WADA declared Kenya non-compliant with its WADC in May (WADA, 2016b). Kenya is a perennial medal contender in track events, but the country had more than 40 athletes test positive for banned substances between 2011 and 2016. The lack of a national testing system to carry out rigorous testing was also cause for WADA's declaration of non-

compliance (BBC, 2016). In effort to avoid exclusion from the Olympics, Kenya agreed to pass anti-doping legislation to become WADC compliant. The law created a national anti-doping agency and new criminal punishments for doping athletes (Sunday, 2016). The law allows for monetary fines or a jail term of up to one year for athletes, and up to three years for medical personnel found supplying athletes with banned substances (National Council for Law Reporting, 2016; Wanambisi & Isaboke, 2016).

Though the driving force behind the law was Olympics eligibility, Kenyan authorities sought to project toughness toward the treatment of doping athletes. As reported on the Kenyan government news website, Kenyan President Uhuru Kenyatta 'made it clear that those who breach the law will be punished without fear or favour' (MyGov, 2016). These laws echo the tone of war on drugs policies criminalising illicit drug use, often in an effort for regulators to be viewed as taking a tough stance (Alexander, 2014).

Criminalisation debates in 2016 were not left to WADC non-compliant countries. In December, the U.K. Parliament debated proposed legislative changes that would make doping a criminal offence. A proposal sought to make it illegal for an athlete to use a banned PED, or for a coach or medical professional to supply it, with penalties going up to a six-month prison term (D'Arcy, 2016). This followed calls earlier in the year from then-Prime Minister David Cameron to consider criminalising doping (MacLellan, 2016) and from former police officer Lord Stevens who said, 'I believe some of the integrity breaches should be actually drafted into the criminal law, including the taking of

drugs. To safeguard the person who is taking the drugs and, more importantly, to ensure the sport is clean' (Rumsby, 2016). This view puts keeping sport 'clean' as the main anti-doping priority, not protecting athletes.

### *USAC's RaceClean program*

Cases resulting from the expansion of WADA policies into amateur targeted programs highlight the tensions between anti-doping agencies and amateur athletes. Previous research on doping cases across the competitive spectrum in US cycling demonstrated that positive tests for amateurs were often the result of cannabis, prescription medications, and inadvertent ingestion of substances (Henning & Dimeo, 2015). In 2016 there were five sanction announcements from USADA out of USA Cycling's RaceClean program, of which four were amateur cyclists (USA Cycling, 2017). Of those four, three received reduced competition bans by demonstrating their positive tests were due to prescription medication each was 'taking in a therapeutic dose under the care of a qualified physician' (USADA, 2016; 2016a; 2016b). Despite accepting each athlete's explanation of using prescribed medications, all still received competition bans for failing to have a TUE. Strict liability means that even a successful defence will still lead to a ban. The impact of this regulation neither protects health nor reduces cheating.

While these athletes could have applied for TUEs to use their prescriptions while competing, there is no guarantee one would be granted. One recently settled case involved the cyclist and triathlete, Sloane Teeple. Before testing positive in 2013, Teeple had sought out and been denied a TUE three

separate times in order to treat hypogonadism with prescription testosterone (Dreier, 2017). After appealing his case to an arbitration panel, Teeple received notification in June 2015 that he had been granted a Recreational Competitor Therapeutic Use Exemption (RTUE) (Drier, 2016). This enabled him to compete while using his prescription.

RTUEs are a promising option for amateurs competing while using medically necessary therapies that happen to be banned. However, several issues with RTUEs prevent them from effectively preventing athletes from prescription-related positive tests. The category for who is eligible for a RTUE is highly restrictive. These restrictions exclude those most likely to be selected for testing at a race, those who finish in a top spot or who place in their age groups.

RTUEs are limited to:

‘a Non-National Athlete who is not classified as a professional Athlete and who within the last 25 years (1) has not been in the USADA Registered Testing Pool or the Registered Testing Pool of an International Federation; (2) has not represented the United States in an International Event; (3) has not won a national or regional level Competition in any sport; (4) has not finished first, second or third in an age group category of any Event sanctioned by an NGB in which fifty (50) or more competitors have been entered in that category in the sport in which they are presently competing; and (5) has not won more than five hundred dollars (500.00 USD) in prize money in an Event in the sport in which they are presently competing’ (USADA, 2017: 4).

RTUEs also do not protect against athletes ingesting a banned substance inadvertently. Elite athletes under the supervision of team doctors are not immune from accidental use (BBC Sport, 2016), but are nonetheless responsible under the strict liability principle. For amateur athletes who may use common nutritional supplements there is a real risk of accidentally ingesting a banned substance (Judkins & Prock, 2014; Outram & Stewart, 2015a).

Cyclists may not be aware that they need a TUE. Though USA Cycling provides information about how to check on supplements and medications and information on when to apply for a TUE on its RaceClean page and in its updates, it is unclear how well these reach the targeted audience. Athletes at lower competitive categories may assume that legal medications are allowed, that they are unlikely to be selected for testing at events, or that they are at low risk for a positive test if they avoid known doping substances. However, as these initial cases demonstrate, athletes may be unaware a TUE or RTUE may be necessary.

USADA's introduction of RTUEs is a response to the challenges of testing amateur athletes. This development seems to have been done for the sake of efficiency—allowing lower level athletes to have their own standard rather than a wave of positive tests to adjudicate—and in response to challenges from athletes like Teeple. Other recent proposals, national-level laws criminalising doping and the validity of TUEs for clean athletes, seem to ignore the amateur context entirely.

**Conclusion: Harm reduction as alternative**

Despite signs of a global shift away from war on drugs policies, the sport world is doubling down on the prohibit-detect-punish approach with a new population of amateur athletes. The war on doping has been unsuccessful at eradicating doping from sports. Indeed, the scandals of 2016 alone demonstrate how far away that goal remains. Rather than heed the lessons from the war on drugs and try a different approach, anti-doping seems to be repeating many mistakes. Moves to criminalise doping when high rates of inadvertent positive tests remain unresolved are problematic on their own (de Hon, 2016; de Hon & Coumons, 2007). Coupled with expanding testing to include amateurs who are largely uneducated about anti-doping policies and the TUE system, but who use medications, recreational drugs, and lifestyle products, these proposals risk subjecting large numbers of athletes to the criminal justice system and the stigmas that follow from that into the non-sport world.

WADA has been reluctant to change its approach to anti-doping, maintaining that strict liability and lengthy competition bans are the most effective way to prevent athletes from doping. However, these policies were created with Olympic and professional level athletes in mind—not amateur and recreational athletes. It is clear amateurs are different from elites in their levels of competition, but also in their motivations for engaging in sport and their reasons for using banned substances, as discussed above. It follows that anti-doping should not approach amateurs in the same way that it has elites.

We recommend sport take a different approach to amateur athletes: harm reduction. Sports researchers have suggested harm reduction as an alternative

approach (Aubel & Ohi, 2014; Stewart & Smith, 2010), which has been shown to have user benefits for illicit drug users (Des Jarlais & Friedman, 1998; Toumbourou et al, 2007). A review of harm reduction-based studies found that the evidence in favour of a broad adoption of harm reduction as the guiding framework for drug use is sufficient (Ritter & Cameron, 2006). Indeed, it is the approach promoted by the UN and World Health Organization. While less a set of policies and more of an overall approach, a harm reduction-based anti-doping program would accept that banned substance use exists and will continue, therefore the focus should be on making use as safe as possible (Smith & Stewart, 2008). Using strategies of education, prevention, treatment, and medical advice, a harm reduction approach could engage with athletes rather than simply provide them with a set of morality-laden directives (Stewart & Smith, 2010).

An alternative approach is only feasible if anti-doping organisations are willing to acknowledge that amateurs are different from elites. Developments like USADA's RTUE are steps in this direction. Rather than continuing to sink resources into a punitive system unlikely to catch or deter doping athletes, anti-doping could fund research on safe use and develop better prevention and medical services for athletes, prioritising health over moral judgment. This would also support a move away from a focus on 'clean' sport and towards one on healthy sport.



## References

- Alexander, B. R. (2014). War on drugs redux: Welcome to the war on doping in sports. *Substance Use & Misuse*, 49(9), 1190-1193.  
<http://dx.doi.org/10.3109/10826084.2014.904119>
- Allen, J., Taylor, J., Dimeo, P., Dixon, S., & Robinson, L. (2015). Predicting elite Scottish athletes' attitudes towards doping: examining the contribution of achievement goals and motivational climate. *Journal of Sports Sciences*, 33(9), 899-906.  
<http://dx.doi.org/10.1080/02640414.2014.976588>
- Aubel, O., & Ohl, F. (2014). An alternative approach to the prevention of doping in cycling. *International Journal of Drug Policy*, 25(6), 1094-1102.  
<http://dx.doi.org/10.1016/j.drugpo.2014.08.010>
- Bagley, B. M. (1988). US foreign policy and the war on drugs: Analysis of a policy failure. *Journal of Interamerican Studies and World Affairs*, 30(2/3), 189-212. doi: 10.2307/165986
- BBC. (2016, Apr 7). *Doping: Kenya given until 2 May by Wada to pass new rules*. Retrieved 12 Dec 2016 from <http://www.bbc.com/sport/athletics/35990512>
- Bostwick, J.M. (2011). Blurred boundaries: The therapeutics and politics of medical marijuana. *Mayo Clinic Proceedings*, 87(2), 172-186.  
<http://dx.doi.org/10.1016/j.mayocp.2011.10.003>
- Brown, A. (2016, Sep 26). US & Australia appear to lead world in approved TUEs *Sports Integrity Initiative*. Retrieved 12 Dec 2016 from <http://www.sportsintegrityinitiative.com/us-australia-appear-to-lead-world-in-approved-tues/>
- Buchanan, J. & Young, L. (2000). The War on Drugs- a war on drug users?. *Drugs: education, prevention and policy*, 7(4), 409-422.  
<http://dx.doi.org/10.1080/dep.7.4.409.422>
- Coomber, R. (2013). How social fear of drugs in the non-sporting world creates a framework for doping policy in the sporting world. *International Journal of Sport Policy and Politics*, 6(2), 171-193.  
<http://dx.doi.org/10.1080/19406940.2012.756824>
- Chin, G. (2002) Race, the War on Drugs, and the Collateral Consequences of Criminal Conviction. *Journal of Gender, Race & Justice*, 6, 253.  
<http://dx.doi.org/10.2139/ssrn.390109>
- Christiansen, A. V. (2009). " We are not sportsmen, we are professionals": professionalism, doping and deviance in elite sport. *International Journal of*

- Sport Management and Marketing*, 7(1-2), 91-103. doi: 10.1504/IJSMM.2010.029714
- Christiansen, A. V., Vinther, A. S., & Liokaftos, D. (2016). Outline of a typology of men's use of anabolic androgenic steroids in fitness and strength training environments. *Drugs: Education, Prevention and Policy*, 1-11. <http://dx.doi.org/10.1080/09687637.2016.1231173>
- Cohen, J., Collins, R., Darkes, J., & Gwartney, D. (2007). A league of their own: demographics, motivations and patterns of use of 1,955 male adult non-medical anabolic steroid users in the United States. *Journal of the International Society of Sports Nutrition*, 4(1), 12. doi: 10.1186/1550-2783-4-12
- Cyclingnews. (2013, Mar 6). USA Cycling launches RaceClean program. Retrieved 12 Dec 2016 from <http://www.cyclingnews.com/news/usa-cycling-launches-raceclean-program/>
- D'Arcy, M. (2016, Dec 2). Week ahead. Retrieved 10 Dec 2016 from <http://www.bbc.com/news/uk-politics-parliaments-38181830>
- de Hon, O. M. (2016). *Striking the Right Balance: Effectiveness of Anti-Doping Policies*. (Doctoral dissertation, Utrecht University).
- de Hon, O., & Coumans, B. (2007). The continuing story of nutritional supplements and doping infractions. *British Journal of Sports Medicine*, 41(11), 800-805. doi: 10.1136/bjism.2007.037226
- Des Jarlais, D. C., & Friedman, S. R. (1998). Fifteen years of research on preventing HIV infection among injecting drug users: what we have learned, what we have not learned, what we have done, what we have not done. *Public Health Reports*, 113(Suppl 1), 182-188.
- Dimeo, P. (2009). The origins of anti-doping policy in sports: From public health to fair-play. In V. Møller, M. McNamee, and P. Dimeo (Eds.) *Elite sport, doping and public health* (pp. 29-40). Odense: University Press of Southern Denmark.
- Donovan, R. J., Egger, G., Kapernick, V., & Mendoza, J. (2002). A conceptual framework for achieving performance enhancing drug compliance in sport. *Sports Medicine*, 32(4), 269-284. doi:10.2165/00007256-200232040-00005
- Drier, F. (2017, Feb 8). The need for 'T' — amateur cycling and testosterone TUEs. *Velonews*. Retrieved 16 Feb 2017 from [http://www.velonews.com/2017/02/from-the-mag/need-t-amateur-cycling-testosterone-tues\\_430124](http://www.velonews.com/2017/02/from-the-mag/need-t-amateur-cycling-testosterone-tues_430124)

- Drier, F. (2016, Apr 22). Prescription Steroids Get a Quiet Exemption. *The Wall Street Journal*. Retrieved 13 Dec 2016 from <https://www.wsj.com/articles/prescription-steroids-get-a-quiet-exemption-1461365753>
- Drier, F. (2012, July 27). Wider Testing Reveals Doping Among Amateur Cyclists, Too. *The New York Times*. Retrieved 6 Dec 2016 from <http://www.nytimes.com/2012/07/28/sports/cycling/doping-in-cycling-reaches-into-amateur-ranks.html>
- Erickson, K., McKenna, J., & Backhouse, S. H. (2015). A qualitative analysis of the factors that protect athletes against doping in sport. *Psychology of Sport and Exercise*, 16, 149-155. <http://dx.doi.org/10.1016/j.psychsport.2014.03.007>
- Feilding, A. (2014). Cannabis and the psychedelics: Reviewing the UN drug conventions. In B.C. Labate and C. Cavnar (Eds.) *Prohibition, religious freedom, and human rights: Regulating traditional drug use* (pp. 189-210). Berlin: Springer.
- Fitch, K. D. (2013). Therapeutic use exemptions (TUEs) at the Olympic Games 1992–2012. *British Journal of Sports Medicine*, 47, 815-818. <http://dx.doi.org/10.1136/bjsports-2013-092460>
- Frenger, M., Emrich, E., & Pitsch, W. (2013). How to produce the belief in clean sports which sells. *Performance Enhancement & Health*, 2(4), 210-215. <http://dx.doi.org/10.1016/j.peh.2014.09.001>
- Game Theory. (2016, Sep 19). How athletes can use medical exemptions to beat drug testers. *The Economist*. Retrieved 13 Dec 2016 from <http://www.economist.com/blogs/gametheory/2016/09/doper-s-dupe>
- Gleaves, J., & Llewellyn, M. (2014). Sport, drugs and amateurism: Tracing the real cultural origins of anti-doping rules in international sport. *The International Journal of the History of Sport*, 31(8), 839-853. doi: 10.1080/09523367.2013.831838
- Guardian. (2016, Sep 15). Froome and Wiggins defend TUEs use as Team GB athletes warned over leaks *The Guardian*. Retrieved 12 Dec 2016 from <https://www.theguardian.com/sport/2016/sep/15/chris-froome-defends-use-tues-wada-hacking-leaks>
- Henne, K., Koh, B., & McDermott, V. (2013). Coherence of drug policy in sports: Illicit inclusions and illegal inconsistencies. *Performance Enhancement & Health*, 2(2), 48-55. doi: 10.1016/j.peh.2013.05.003
- Henning, A. (2016). Challenges to promoting health for amateur athletes through anti-doping policy. *Drugs: Education, Prevention and Policy*, 1-8. <http://dx.doi.org/10.1080/09687637.2016.1208732>

- Henning, A. D. (2015). Health Culture and Running: Non-Elite Runners' Understandings of Doping and Supplementation. *Journal of Amateur Sport*, 1(2), 51-77. doi: <https://doi.org/10.17161/jas.v0i0.4936>
- Henning, A. D., & Dimeo, P. (2014). The complexities of anti-doping violations: A case study of sanctioned cases in all performance levels of USA cycling. *Performance Enhancement & Health*, 3(3), 159-166. doi: 10.1016/j.peh.2015.08.001
- Henning, A. D., & Dimeo, P. (2015). Questions of fairness and anti-doping in US cycling: The contrasting experiences of professionals and amateurs. *Drugs: Education, Prevention and Policy*, 22(5), 400-409. <http://dx.doi.org/10.3109/09687637.2015.1029872>
- Hoberman, J. (2012). Doping, gambling, and the decline of the IOC. *Georgetown Journal of International Affairs*, 13, 135-142.
- Hoberman, J. (2005). *Testosterone dreams: Rejuvenation, aphrodisia, doping*. Berkeley: University of California Press.
- Johnson, J., Butryn, T., & Masucci, M.A. (2013). A focus group analysis of the US and Canadian female triathletes' knowledge of doping. *Sport in Society*, 16, 654-671. doi: 10.1080/17430437.2012.753522
- Judkins, C., & Prock, P. (2012). Supplements and inadvertent doping—how big is the risk to athletes. *Acute Topics in Sport Nutrition*, 59, 143-152. doi:10.1159/000341970
- Kayser, B., & Broers, B. (2012). The Olympics and harm reduction? *Harm Reduction Journal*, 9(1), 33. doi: 10.1186/1477-7517-9-33
- Kayser, B., Mauron, A., & Miah, A. (2007). Current anti-doping policy: a critical appraisal. *BMC Medical Ethics*, 8(1), 2. doi:10.1186/1472-6939-8-2
- Kayser, B., & Smith, A.C.T. (2008). Globalisation of anti-doping: the reverse side of the medal. *BMJ*, 337(7661): 85-87. doi: 10.1136/bmj.a584
- Mazanov, J. (2013). Vale WADA, ave "World Sports Drug Agency". *Performance Enhancement & Health*, 2(2), 80-83. doi: 10.1016/j.peh.2013.08.014
- Mazanov, J., & Connor, J. (2010). Rethinking the management of drugs in sport. *International Journal of Sport Policy*, 2(1), 49-63. doi: 10.1080/19406941003634032
- MacLellan, K. (2016, Apr 13). PM Cameron wants UK parliament to consider doping criminal. *Reuters*. Retrieved 13 Dec 2016 from <http://www.reuters.com/article/us-sport-doping-cameron-idUSKCN0XA1II>

- McLaren, R. (2016, Dec 9). The Independent Person 2<sup>nd</sup> Report. Retrieved 9 Dec 2016 from [https://www.wada-ama.org/sites/default/files/resources/files/mclaren\\_report\\_part\\_ii\\_2.pdf](https://www.wada-ama.org/sites/default/files/resources/files/mclaren_report_part_ii_2.pdf)
- Millar, D. (2016, Oct 14). How to get away with doping. *The New York Times*. Retrieved 15 Oct 2016 from <https://www.nytimes.com/2016/10/16/opinion/sunday/how-to-get-away-with-doping.html>
- Møller, V. (2014). Who guards the guardians? *The International Journal of the History of Sport*, 31(8), 934-950. <http://dx.doi.org/10.1080/09523367.2013.826652>
- Møller, V. (2009). Conceptual confusion and the anti-doping campaign in Denmark. In V. Møller, M. McNamee, and P. Dimeo (Eds.) *Elite sport, doping and public health* (pp. 13-28). Odense: University Press of Southern Denmark.
- Monaghan, L. F. (2002). Vocabularies of motive for illicit steroid use among bodybuilders. *Social Science & Medicine*, 55(5), 695-708. [http://dx.doi.org/10.1016/S0277-9536\(01\)00195-2](http://dx.doi.org/10.1016/S0277-9536(01)00195-2)
- Muphy, J. (2013, Apr 24). Where in the world is doping a crime? Retrieved 12 Dec 2016 from [http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/FlagPost/2013/April/Where\\_in\\_the\\_world\\_is\\_doping\\_a\\_crime\\_doping\\_in\\_sports\\_pt\\_6](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/FlagPost/2013/April/Where_in_the_world_is_doping_a_crime_doping_in_sports_pt_6)
- MyGov. (2016, Apr 22). President Kenyatta signs Anti-Doping Bill into law. Retrieved 6 Dec 2016 from <http://www.mygov.go.ke/?p=8772>
- National Council for Law Reporting. (2016). Anti-Doping Act No. 5 of 2016. *KenyaLaw.org*. Retrieved 15 Jan 2017 from file:Anti-DopingAct5of2016%20(1).pdf
- NYRR. (2017). NYRR Run Clean. Retrieved 20 Jan 2017 from <http://www.nyrr.org/races-and-events/nyrr-run-clean>
- NYRR. (2017a). *Who will be tested?* Retrieved 20 Jan 2017 from <https://help.nyrr.org/customer/en/portal/articles/2605594-who-will-be-tested->
- ONDCP. (1989). *National Drug Control Strategy, 1989*. Washington, DC: Executive Office of the President.
- Outram, S. M., & Stewart, B. (2015). Condemning and condoning: Elite amateur cyclists' perspectives on drug use and professional cycling. *International Journal of Drug Policy*, 26(7), 682-687. <http://dx.doi.org/10.1016/j.drugpo.2015.01.007>

- Outram, S., & Stewart, B. (2015a). Doping through supplement use: a review of the available empirical data. *International Journal of Sport Nutrition and Exercise Metabolism*, 25(1), 54-59. doi: <http://dx.doi.org/10.1123/ijsnem.2013-0174>
- Parlamento Italiano. (2000 Dec 18). *Discipline of the health protection of sports and the fight against doping*. Retrieved 15 Feb 2017 from <http://www.camera.it/parlam/leggi/00376l.htm>
- Patten, D. (2016). The Mass Incarceration of Nations and the Global War on Drugs: Comparing the United States' Domestic and Foreign Drug Policies. *Social Justice*, 43(1), 85.
- Petróczi, A., & Aidman, E. (2008). Psychological drivers in doping: the life-cycle model of performance enhancement. *Substance Abuse Treatment, Prevention, and Policy*, 3(7). doi: 10.1186/1747-597X-3-7
- Reedie, C. (2015, Feb 2). *WADA President: "Combatting Doping now as important to Society as it is to Sport"*. Retrieved 12 Dec 2016 from <https://www.wada-ama.org/en/media/news/2015-02/wada-president-combatting-doping-now-as-important-to-society-as-it-is-to-sport>
- Reuter, P. (2013). Why Has US Drug Policy Changed So Little over 30 Years? *Crime and Justice*, 42(1), 75-140. doi: 10.1086/670818
- Ritter, A., & Cameron, J. (2006). A review of the efficacy and effectiveness of harm reduction strategies for alcohol, tobacco and illicit drugs. *Drug and Alcohol Review*, 25(6), 611-624.
- Rumsby, B. (2016, May 11). Lord Stevens wants doping in sport to be made criminal offence. *The Telegraph*. Retrieved 12 Dec 2016 from <http://www.telegraph.co.uk/athletics/2016/05/11/lord-stevens-wants-doping-in-sport-to-be-made-criminal-offence/>
- Seely, K. A., Prather, P. L., James, L. P., & Moran, J. H. (2011). Marijuana-based drugs: innovative therapeutics or designer drugs of abuse? *Molecular Interventions*, 11(1), 36. doi: 10.1124/mi.11.1.6
- Shilling, C., & Bunsell, T. (2009). The female bodybuilder as a gender outlaw. *Qualitative Research in Sport and Exercise*, 1(2), 141-159. <http://dx.doi.org/10.1080/19398440902909009>
- Simon, P., Striegel, H., Aust, F., Dietz, K., & Ulrich, R. (2006). Doping in fitness sports: estimated number of unreported cases and individual probability of doping. *Addiction*, 101(11), 1640-1644. doi: 10.1111/j.1360-0443.2006.01568.x
- Smith, A. C., & Stewart, B. (2015). Why the war on drugs in sport will never be won. *Harm reduction journal*, 12(1), 53. doi: 10.1186/s12954-015-0087-5

- Smith, A. C., & Stewart, B. (2008). Drug policy in sport: hidden assumptions and inherent contradictions. *Drug and Alcohol Review, 27*(2), 123-129.
- Stewart, B., & Smith, A. (2010). Player and athlete attitudes to drugs in Australian sport: implications for policy development. *International journal of sport policy, 2*(1), 65-84. doi: 10.1080/19406941003634040
- Strashin, J. (2016, Oct 13). How Olympic athletes (legally) use drugs. *CBC*. Retrieved 13 Dec 2016 from <http://www.cbc.ca/sports/olympics/therapeutic-use-exemptions-1.3801960>
- Strelan, P., & Boeckmann, R. J. (2006). Why drug testing in elite sport does not work: perceptual deterrence theory and the role of personal moral beliefs. *Journal of Applied Social Psychology, 36*(12), 2909-2934. doi: 10.1111/j.0021-9029.2006.00135.x
- Stubbe, J. H., Chorus, A. M., Frank, L. E., Hon, O., & Heijden, P. G. (2014). Prevalence of use of performance enhancing drugs by fitness centre members. *Drug Testing and Analysis, 6*(5), 434-438. doi: 10.1002/dta.1525
- Sumner, C. The spirit of sport: the case for criminalisation of doping in the UK. *The International Sports Law Journal, 1*-11. doi: 10.1007/s40318-016-0103-2
- Sunday, F. (2016, June 23). Kenya passes new anti-doping law to avoid Olympic ban. *The Guardian*. Retrieved 12 Dec 2016 from <https://www.theguardian.com/world/2016/jun/23/kenya-passes-new-anti-doping-law-to-avoid-olympic-ban>
- Tonry, M. (1994). Race and the War on Drugs. *University of Chicago Legal Forum, 1*(4), 25-81.
- Toumbourou, J. W., Stockwell, T., Neighbors, C., Marlatt, G. A., Sturge, J., & Rehm, J. (2007). Interventions to reduce harm associated with adolescent substance use. *The Lancet, 369*(9570), 1391-1401. [http://dx.doi.org/10.1016/S0140-6736\(07\)60369-9](http://dx.doi.org/10.1016/S0140-6736(07)60369-9)
- USA Cycling. (2017). *Anti-Doping & the USA Cycling RaceClean Program*. Retrieved 15 Feb 2017 from <https://www.usacycling.org/usa-cycling-raceclean-program.htm>
- USA Cycling. (2016). *2015 Annual Report*. Retrieved 15 Feb 2017 from <http://www.usacycling.org/usa-cycling-inc-fiscal-information.htm>
- USADA. (2017). *USADA Therapeutic Use Exemption Policy*. Retrieved 15 Feb 2017 from <http://www.usada.org/substances/tue/policy/>
- USADA. (2016). *Jeff Schwab accepts doping sanction*. Retrieved 13 Dec 2016 from <http://www.usada.org/jeff-schwab-accepts-doping-sanction/>

- USADA. (2016a). *Kimberly Ciolli accepts doping sanction*. Retrieved 13 Dec 2016 from <http://www.usada.org/kimberly-ciolli-accepts-doping-sanction/>
- USADA. (2016b). *Robert Baatz accepts doping sanction*. Retrieved 13 Dec 2016 from <http://www.usada.org/robert-baatz-accepts-doping-sanction/>
- Van Olphen, J., Eliason, M. J., Freudenberg, N., & Barnes, M. (2009). Nowhere to go: How stigma limits the options of female drug users after release from jail. *Substance Abuse Treatment, Prevention, and Policy*, 4(1), 10. DOI: 10.1186/1747-597X-4-10
- WADA. (2017). *Governance*. Retrieved 24 Feb 2017 from <https://www.wada-ama.org/en/governance>
- WADA. (2017a). *List of Prohibited Substances and Methods*. Retrieved 24 Feb 2017 from <https://www.wada-ama.org/en/resources/science-medicine/prohibited-list>
- WADA. (2017b). *Whereabouts*. Retrieved 24 Feb 2017 from <https://www.wada-ama.org/en/questions-answers/whereabouts>
- WADA. (2016, Sep 23) *Cyber Hack Update: Data leak concerning 41 athletes from 13 countries and 17 sports*. Retrieved 24 Feb 2017 from <https://www.wada-ama.org/en/media/news/2016-09/cyber-hack-update-data-leak-concerning-41-athletes-from-13-countries-and-17>
- WADA. (2016a, Sep 14). *WADA confirms another batch of athlete data leaked by Russian cyber hackers 'Fancy Bear'*. Retrieved 24 Feb 2017 from <https://www.wada-ama.org/en/media/news/2016-09/wada-confirms-another-batch-of-athlete-data-leaked-by-russian-cyber-hackers-fancy>
- WADA. (2016b, May 12). *Foundation Board Declares Kenyan National Anti-Doping Organization Non-Compliant*. Retrieved 24 Feb 2017 from <https://www.wada-ama.org/en/media/news/2016-05/foundation-board-media-release-12-may-2016>
- WADA. (2015). *World Anti-Doping Code*. Retrieved 24 Feb 2017 from <https://www.wada-ama.org/en/resources/the-code/world-anti-doping-code>
- Waddington, I., Christiansen, A. V., Gleaves, J., Hoberman, J., & Møller, V. (2013). Recreational drug use and sport: Time for a WADA rethink?. *Performance Enhancement & Health*, 2(2), 41-47. <http://dx.doi.org/10.1016/j.peh.2013.04.003>



Wanambisi, L. & Isaboke, A. (2016, May 26). Kenya: National assembly approves anti-doping law amendments. *allAfrica*. Retrieved from <http://allafrica.com/stories/201605270219.html>

Whiteman, J. (2017, April 3) *2017 Q1 Update*. Retrieved 3 Apr 2017 from <https://s3.amazonaws.com/USACWeb/forms/anti-doping/Q1-RC-Update.pdf>