

# **Sport, health and drugs: a critical re-examination of some key issues and problems**

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## **ABSTRACT**

One of the major justifications for the ban on the use of performance-enhancing drugs in sport has been that relating to the protection of the health of athletes. This paper subjects this argument to critical analysis by locating it in the context of the broader relationship between sport and health. More particularly, the paper seeks to unravel some of the complexities of this relationship by an examination of (i) some aspects of sports sponsorship, particularly with alcohol and tobacco companies; (ii) the health risks associated with elite level sport, and (iii) the widespread and legal use within the sporting context of drugs which can have dangerous side effects. The paper concludes with an examination of some aspects of anti-doping policies within sport and it is suggested that a more imaginative approach to athlete education is needed to prevent the misuse of drugs.

**Key words:** Drugs. Health. Sport. World Anti-Doping Agency

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## **Introduction**

As other authors (1-2) have noted, one of the major justifications for the ban on the use of performance-enhancing drugs in sport is that relating to the protection of the health of athletes. This is, for example, one of the key arguments against doping which was cited in the Olympic Movement Anti-Doping Code (3). More recently, the World Anti-Doping Agency Code suggests that one reason for the ban on the use of certain drugs is that they represent “an actual or potential health risk to the athlete” (4) (p. 16). The argument that performance-enhancing drugs are damaging to the health of athletes has regularly been used by the Sports Council in Britain (5), while the Australian Sports Commission (ASC) has recently reiterated this argument in its claim that the use of prohibited substances or methods is “potentially harmful to the health of Athletes” (6) (p. 4).

This argument - that doping may damage the health of athletes - has, since the introduction of anti-doping regulations in the 1960s, been consistently cited as one of the most compelling reasons for the ban on the use of performance-enhancing drugs. But how persuasive is such an argument? Do the anti-doping regulations in sport really serve to protect the health of athletes? And is the publicly expressed concern of governing bodies of sport for the health of athletes expressed in other aspects of their policies? The central object of this paper is to subject this argument to critical analysis by locating it in the wider context of the relationship between sport and health. More particularly, we will seek to unravel some of the complexities of this relationship by an examination of (i) some aspects of sports sponsorship; (ii) the health risks associated with elite level sport, and (iii) the widespread and legal use within the sporting context of drugs which can have dangerous side effects. We conclude the paper with an examination of some aspects of anti-doping policies within sport.

## **Doping as a danger to health: the sport-health ideology**

At the outset we might note that, insofar as the ban on performance-enhancing drugs is based on an expressed desire to prevent athletes from damaging their own health,

then it reflects a paternalistic approach to protecting the welfare of athletes. Writing from a legal perspective, O'Leary (7) has argued that in terms of traditional jurisprudence, such an approach "is only valid if the effect of the prohibition is to protect those unable to make an informed and rational judgement for themselves or to prevent harm to others" (p. 301). An obvious example of the former would be a ban on the taking of performance-enhancing drugs by children and junior athletes but O'Leary adds that "the extension of the ban beyond this point is more difficult to justify".

If the concern for health constitutes one of the principal objections to the use of drugs in sport, then we might reasonably expect a similar concern for health to inform other aspects of the organisation of sport. Is this in fact what we find? It is undoubtedly the case that, at least at an ideological level, there is a strong link between sport and health, and the idea that sport is health-promoting is one which is frequently stressed by those involved in sport (5). However, although the ideology linking sport and health is widely accepted, an examination of certain aspects of the organisation of sport casts doubt on the assumed closeness of the relationship between sport and the promotion of healthy life-styles. Let us begin with an examination of some aspects of sports sponsorship.

### **Sports sponsorship: sport, alcohol and tobacco**

One feature of modern sport involves the large-scale sponsorship of sport by the manufacturers of two of the most widely used drugs in the western world: alcohol and tobacco. Without exaggeration, it might be suggested that it is more than a little anomalous that sports organisations which ban the use of drugs on the grounds that they may damage athletes' health have so readily accepted sponsorship from the manufacturers of alcohol and tobacco which, as the report of the Royal Society on *Illegal Drugs, Communities and Public Policy* (8) has pointed out, "cause more damage to human health than all the other drugs put together" (p. 317).

The health dangers associated with alcohol use have recently been underlined by the RSA Commission report. The Commission developed a matrix of drug related harms, and used nine criteria, grouped under three headings, for determining the harmfulness of drugs; the three headings were (a) physical harms (eg toxicity), (b) likelihood of dependence and (c) social harms (including damage done to others by the drug users' intoxication, healthcare costs and other costs such as child neglect). On this basis, alcohol was ranked fifth (out of twenty drugs) in a hierarchy of harms (8) (p. 316-7). It is perhaps not surprising that concern has been expressed about the ready acceptance by sporting bodies of sponsorship from the manufacturers of alcohol. For example, Budweiser was an official partner for the 2006 Football World Cup, and in that year the Washington-based Center for Science in the Public Interest (9) organized a global campaign urging FIFA to end sponsorship by alcohol manufacturers.

But if concern has been expressed about sports sponsorship from alcohol manufacturers, it is the relationship between sport and the tobacco industry which, in terms of public health, has been the cause of greatest concern; in this regard, it might be noted that the medical case against tobacco use would appear to be much stronger than is the medical case against many of the drugs whose use is prohibited in sport. It might also be suggested that the ready acceptance by sports organisations of sponsorship from tobacco companies raises serious questions about the expressed concern of many sporting bodies with health-related issues in relation to drug use. A brief overview of the recent history of the relationship between sports sponsorship and the tobacco industry is revealing in this regard.

From the 1970s, business sponsorship of sport grew rapidly in Britain, with tobacco companies being by far the biggest spenders (10). Sports sponsorship has been a highly cost-effective means of advertising for the tobacco companies because it enabled them to circumvent the 1965 ban on the advertising of cigarettes on television, for cigarette manufacturers continued to reach large television audiences *via* the televised coverage of such popular sporting events as the Embassy Snooker

World Championships, Benson and Hedges Cricket and the Silk Cut Rugby League Challenge Cup. Sponsorship of sporting events by tobacco companies has been widespread; sports which have been sponsored by tobacco companies in Britain in the last two decades include motor racing, power boat racing, cricket, speed-way, snooker, darts, bowls, horse-racing, tennis, rugby union, rugby league, basketball, badminton, show-jumping, motor cycling and table tennis. Siegel (11) has similarly noted that, in the United States, as in Britain, “the tobacco industry has used sports sponsorship effectively to promote its products, largely by achieving television advertising exposure for its cigarette and smokeless tobacco brands in a way that circumvents the federal prohibition of tobacco advertising on television” (p. 1100).

The sponsorship of sporting events by tobacco companies raises important issues in terms of the relationship between sport and the promotion of health, for the Department of Health in Britain (12) has pointed out that smoking “is the biggest cause of early deaths in England” (p. 20). The most recent data from the Clinical Trial Service Unit at Cambridge University, updated in June 2006, indicate that in the UK in 2000, 25% of all deaths among middle aged men (aged 35-69) and 21% of deaths among middle aged women were attributed to smoking with, on average, 21 years of life lost per death from smoking. The relevant figures for the United States were 29%, 27% and 23 years. In the UK, 19% of all deaths in 2000 were attributed to smoking while in the US the figure was 21% (13) (p. 498-500 and 510-12). Without labouring the point, one might reasonably suggest that the ideology which associates sports with healthy lifestyles – and more particularly, the argument which is frequently expressed by sporting bodies that the ban on performance-enhancing drugs is designed to protect the health of athletes - sits very uneasily with the recent history of widespread sports sponsorship by manufacturers of alcohol and, more especially, tobacco.

In the last decade, many years of campaigning by public health groups finally resulted in legislation in Britain and Europe which has increasingly limited sponsorship by tobacco companies, though it should be noted that this change has

often been forced upon reluctant sporting bodies. The British legislation came into effect in 2003 and banned all sponsorship of sporting events in Britain, with exceptions for Formula One motor racing and snooker, which were given extra time to find alternative sponsors. The British ban was followed by an EU-wide ban on sponsorship of sporting events within the European Union, which came into effect in 2005. However, as tobacco advertising has been increasingly regulated within Europe, so tobacco companies have turned to sponsoring sporting events outside of Europe, particularly in emerging markets in Asia (14-15). Formula One motor racing, in particular, continued in the early years of the twenty-first century to offer excellent marketing opportunities for tobacco companies, with races outside of Europe reaching television audiences of up to forty billion people worldwide (16). However, the increasingly tight regulation of tobacco advertising has led to a steady withdrawal of tobacco companies from sports sponsorship and by the 2007 season Philip Morris was the only tobacco company still involved in sponsorship in Formula One motor racing (17).

Public health organisations, in Britain and elsewhere, have fought a long campaign to end sports sponsorship by tobacco companies and a relatively detached examination of the role of sports organisations within this process would suggest that, over more than two decades, they have consistently shown greater concern for the income derived from tobacco sponsorship than for the public health issues involved. In 2004, an article in the *British Medical Journal* noted that the efforts of tobacco companies and Formula One racing teams to circumvent restrictions on tobacco sponsorship constituted “a powerful challenge to public health legislation aimed at reducing smoking” (14) (p. 104), while a year later, an editorial in another journal in the *British Medical Journal* publishing group referred to the continuing relationship between sports organisations and tobacco as “an endless addiction” (16). Perhaps most striking was the reaction of Sir Rodney Walker to the ban on tobacco sponsorship which came into effect in Europe in 2005. While the Department of Health in Britain hailed the ban as “a landmark in the protection of public health” and

said it was “determined to see an end to tobacco advertising in motor racing”, Sir Rodney’s primary concern was that the loss of income from tobacco sponsorship would be difficult to replace. In an interview with BBC Sport, he said that “every sport will struggle to recoup money lost from tobacco”, and that “Over 30 years sports have benefited enormously from tobacco sponsorship” (18). Sir Rodney’s priorities are not without significance for, perhaps as much as any other single person, he can be regarded as the authentic voice of British sport; in 1996 he was knighted for his services to the sporting industry and from 1998 to 2006 he was Chair of UK Sport, having previously been Chair of the GB Sports Council (1994-5) and founder Chair of Sport England (1995-98). It should also be noted that, as Chair of UK Sport, he regularly wrote the introduction to that organisation’s annual anti-doping report, in which he extolled the virtues and importance of drug-free sport!

### **The health risks of elite sport**

As we noted earlier, O’Leary (7) has suggested that, in terms of traditional jurisprudence, banning adults from taking drugs on the grounds that they might damage their health is difficult to justify. He goes on to suggest: “If the governing bodies genuinely wished to protect the health of sports men and women would they not introduce a provision, which forbade a competitor competing whilst injured?” He adds that women’s gymnastics “would also need to be reviewed bearing in mind the incidence of arthritis and other diseases of the joints suffered by competitors in later life” (p. 301). O’Leary’s question is an important one, and one which raises a series of questions about health risks and the management of health risks in elite sport. These issues also have important implications for the debate about drugs and health. Let us examine some of these issues.

The first point to note is that there is now an abundance of evidence to indicate that elite level athletes take – and, perhaps more importantly, *are expected to take* - serious risks with their health. As Young (19) has noted:

By any measure, professional sport is a violent and hazardous workplace, replete with its own unique forms of 'industrial disease'. No other single milieu, including the risky and labor-intensive settings of miners, oil drillers, or construction site workers, can compare with the routine injuries of team sports such as football, ice-hockey, soccer, rugby and the like. (p. 373)

Young is by no means overstating the case; one study in England found that the overall injury risk in professional football is 1000 times higher than the risk of injury in other occupations normally regarded as high risk, such as construction and mining (20).

Injury risks, particularly in contact sports, are very high. For example, writing of American football, Young (19) has pointed out that:

No workplace matches football for either the regularity or severity of injury ... football injuries may include arthritis, concussion, fractures, and, most catastrophically, blindness, paralysis and even death ... a review of heat stresses such as cramp, exhaustion and stroke related to amateur and professional football ... reported 29 player deaths between 1968 and 1978 ... the 1990 season represented the first in over 60 years without a player death. (p.377)

In similar fashion, Guttmann (21) has pointed out that in American football, the frequency and severity of injuries is such that the average length of a playing career has dropped to 3.2 years, which is not even long enough to qualify a player for inclusion in the league's pension plan! One can only wonder at the reaction of players when told that they should not use performance-enhancing drugs because they might damage their health!



Not only are there major health risks associated with elite sport but it is also clear that athletes are *expected* to take serious – and arguably unnecessary - risks with their health, for there are considerable constraints on athletes to continue to compete when injured and in pain; as Roderick (22) has noted, an important aspect of sporting culture at the elite or professional level involves a “culture of risk”, which 'normalizes pain, injuries, and "playing hurt" .

Examples of athletes who have continued to compete with painful and potentially serious injuries are almost innumerable (23). One study of English professional football found that “playing with pain, or when injured, is a central aspect of the culture of professional football” and that players “learn from a young age to “normalise” pain and to accept playing with pain and injury as part and parcel of the life of a professional footballer” (24) (p. 172). The acceptance of such tolerant attitudes towards pain and injury appears to be, in effect, a prerequisite for career success, for the same study noted that those who are not prepared to play through pain and injury are likely to be stigmatised as not having the “right attitude”, as malingerers or, more bluntly, as “poofers” (24) (p. 169).

Such attitudes towards pain and injury are not confined to football or to England for, as a growing number of studies have made clear, they are characteristic of elite sport in general in many countries (23, 25, 26). As Young, White and McTeer (27) have noted:

Overt and covert pressures are brought to bear on injured athletes to coerce them to return to action. These may include certain 'degradation ceremonies' ... such as segregated meal areas, constant questioning from coaches, being ostracized at team functions, or other special treatment that clearly identifies the injured athlete as separate. (p.190)

They add that “Pressure placed on the player to return to action before full recovery is in one sense intended to enhance the team's ability to win, but in the process, the long-term health of the athlete is often given little consideration” (27) (p. 190).

These studies of the risk of injury and injury management in elite sport have important and direct implications for the argument that the ban on the use of performance-enhancing drugs is designed to protect the health of athletes. In a memorandum to a House of Commons Committee, two academic philosophers, Savulescu and Foddy (28) (Ev 82), argued that the use of performance-enhancing drugs should be allowed in sport and they suggested that the argument that drug use may involve a risk to the health of athletes was not a persuasive one. In this regard they referred to the injury risks associated with elite sport and suggested:

The question is: what risks should athletes be exposed to? It is not: what is the origin of that risk? Setting the acceptable risk level for performance enhancing drugs should be consistent with the magnitude of risk which athletes are allowed to entertain in elite sport. (28) (Ev 82)

It is in this context that they raised the issue of injury risks in sport. They noted that “at elite levels athletes are always at high risk of some sort of accidental injury” and that “some sports have chronic health conditions in almost every elite athlete”; for example, top-tier trampolinists have an 80% incidence of stress urinary incontinence. They argue that “if a drug had this kind of risk factor, it would bring about a major witch-hunt. But these baseline risks are imposed on every athlete who accepts a place in one of these teams”. They add that it...

...is difficult to ascertain the number of deaths caused by anabolic steroids every year worldwide, but to be comparable to the base line risk of injury in elite contact sports, there would have to be hundreds or even thousands of such deaths each year. It doesn't seem like there are anything like that" (28) (Ev 82-3).

In effect, Savalescu and Foddy ask: why should we not allow athletes to run the health risks associated with drug use, when we allow – indeed, require – them to run what are probably the much greater health risks associated with injury? O'Leary has suggested that "No doubt the governing bodies of sport would argue that the risks of injury in certain sports are well known and that competitors are in some way consenting to the possibility of harm". However, he points out that "the difficulty with this argument is that it could apply equally well to doping" (7) (p. 301). At the very least, it is reasonable to suggest that the argument that the ban on performance-enhancing drugs is designed to protect the health of athletes sits very uneasily with the institutionalised expectation in elite sport that athletes will take serious risks with their health, and with the associated "culture of risk" which is also an integral part of elite sport and which normalizes pain, injury, and "playing hurt".

### **The legal use of dangerous drugs in sport**

The question of whether the banning of certain drugs in sport reflects a primary concern with health issues may also be approached more directly, *via* an examination of the use by athletes of substances which are not banned. In this regard, the British Medical Association has noted that "the issue of protecting an athlete's health is further confused because natural performance-enhancing techniques are not banned but could equally put the athlete's health at risk". In this regard, the BMA point out that "many athletes use a process of carbohydrate loading, whereby an athlete

depletes glycogen stores in an intensive seven-day training session, then consumes a protein-rich diet, then for the remaining three days before competition consumes a starch- and sugar-rich diet to maximise glycogen stores in the muscles.” They add that the health consequences of this “can include hypoglycaemia, nausea, fatigue, dizziness, and irritability” (29) (p. 10).

A brief examination of the use of several drugs which are not banned and which are extremely widely used in the treatment or management of sports-related conditions is also revealing. Since, as we have seen, part of the case against the use of drugs such as anabolic steroids rests on the possible health risks associated with those drugs, it is of some interest to note that several drugs which are very widely - though perfectly legally - used within sport also have a variety of potentially serious side-effects. Prominent amongst these drugs are several painkillers. Injections of local anaesthetic drugs, for example, can produce cardiac disorders and should not be used “on the field”. In very large doses they cause central nervous system stimulation, convulsions and death. The Medical Commission of the International Olympic Committee permits the use of local anaesthetics “only when medically justified” (30) (p. 39) - by which is presumably meant only where there is an injury which would otherwise prevent a competitor from taking part - and “only with the aim of enabling the athlete to continue competing” (31) (p. 95). One might reasonably ask whether these regulations express a primary concern for the health of the athlete or whether considerations relating to the value of competition are ranked more highly.

Several anti-inflammatory drugs which are widely used for the treatment of sports injuries are known to have a variety of harmful side-effects. The most common side effects associated with the use of non-steroidal anti-inflammatory drugs (NSAIDS) are gastro-intestinal pain, nausea, diarrhoea, while prolonged use can lead to ulceration or perforation of the stomach or intestines; more rarely, use of NSAIDS may give rise to skin rashes, bronchospasm, dizziness, vertigo and photosensitivity, while renal failure can occur if NSAIDS are used by those with pre-existing renal (kidney) impairment (32).

From what has been said it is clear that, whilst there may indeed be potentially harmful side-effects associated with the use of certain banned drugs, much the same may also be said about many drugs which are not banned and which are widely used within the sporting context. It might also be noted that there are several drugs which have either been banned or whose use has been restricted under either IOC or WADA regulations, but which are widely available to the general public, are widely used in daily life and appear to present no major threat to health. For example, Mottram (33) (p. 1) has noted that, over the years, many athletes have tested positive for banned drugs which were and are widely available in over-the-counter cold remedies. While some of the more obvious anomalies have been recently been rectified – for example, caffeine is no longer a banned substance – several substances remain on the banned list despite WADA’s own recognition of their “general availability in medicinal products” (34); for example ephedrine, which remains on the banned list, is contained in some widely used and generally available over-the counter hay fever remedies.

These anomalies raise real problems which are not unlike the problems raised by the British Government’s classification of “drugs of abuse” within the wider society more generally. In 2006, this classification of drugs came in for strong criticism in a report by a House of Commons Science and Technology Committee (35). Commenting in *The Lancet* on the findings of the report, MacDonald and Das (36) (p. 559-61) argue that “the UK has a drug classification system that ... has classes of drugs that have no real meaning in terms of damage to health” and that the classification of drugs is “an un-evidence-based mess”. A similar judgement might, perhaps, be made about the prohibited list in sport.

### **Health risks associated with drug use in sport**

We have intimated above that both the health-based arguments which are conventionally used to justify the ban on drugs, and the list of prohibited drugs in sport, lack coherence and consistency. This does not however mean that there are not real health risks associated with the use of some performance-enhancing drugs, for

some banned drugs do have potentially serious adverse side-effects if used in high doses over long periods.

Many studies have been carried out on the health effects of anabolic steroid use. One of the difficulties concerns the doses and types of drugs that are used, as they are frequently used in doses 10-30 times higher than therapeutic doses, and in combinations of several steroids (37).

Most studies have been on the short-term effects. In a summary of the available data, Friedl (38) writes that the best-documented effects are those on the liver, serum lipids, and the reproductive system. Other areas of concern include personality changes and behaviour, coronary artery disease, cerebrovascular accidents, prostatic changes, and the immune functions. Other banned substances and prohibited methods may also have adverse health effects, particularly when used in high doses (39).

Although there are fewer data on the long-term effects of steroid use, valuable information has been provided by studies and interviews with former athletes from the former East Germany (GDR), many of whom were, over many years, subjected to a state-sponsored doping programme (40-41). Franke and Berendonk (42) note that among the documented side effects in GDR athletes who were given very high doses of anabolic-androgenic steroids were muscle cramps, irregular menstruation, including amenorrhea, acne, hirsutism, alteration of libido, sexual potency and infertility.

There are also serious health risks associated with some other performance-enhancing drugs. For example, erythropoietin (EPO), which boosts the performance of endurance athletes by stimulating the production of red blood cells, also produces a dangerous thickening of the blood and has been linked to the deaths of several cyclists (5). From a health perspective, it is not without significance that EPO and anabolic steroids are among the most widely used drugs in sport; EPO is widely used in endurance sports such as cycling and cross-country skiing, while data from WADA indicate that in 2005, 43.4% of all positive drug tests were for steroids. These data clearly raise important health-related issues.

But what are the opinions of the athletes in this matter? Are they concerned about the possible health risks of drug use? Athletes do not speak with one voice on this issue. Some athletes are obviously concerned about their health and want a “clean” sport but it is also clear that many others are prepared to use drugs. In the

1970s Dr. Gabe Mirkin found that more than a half of top American runners indicated they would take a “magic pill” that guaranteed them an Olympic gold medal but would also kill them within a year (31). Goldman asked a similar question some years later of 198 world-class athletes in weight lifting and field events, and found that 52 percent would take the pill (43).

But other athletes remain resolutely opposed to drug use. For example, athletes’ commissions in IOC, WADA, and international and national federations have argued strongly against doping, for both health and ethical reasons. In May 2005 the WADA athletes’ committee identified the “danger of doping” as one of the key aspects of the fight against doping. It stated “many athletes are not aware of the serious consequences of doping on health. [M]ore publicity and information about the consequences would help to deter those who might consider doping” (44). The committee later stated its view that sanctions needed to be tougher (suspensions of more than two years) in order to deter drug use (45).

In many respects this response of the athletes’ committee was disappointing, for, as we shall see, it simply echoed uncritically the two main aspects of IOC and WADA policy: detection and punishment, combined with a simplistic notion of what athlete education should involve. Thus rather than bringing a fresh approach, the athletes themselves have merely reiterated the call for more of the same policies which have singularly failed to control the escalation in drug use since the 1960s. Let us conclude with an examination of some aspects of anti-doping policies.

### **The development of anti-doping policies**

Ever since their introduction in the 1960s, anti-doping policies have been based on what might be called a punitive or “law and order” approach in which the major objective has been to detect and punish drug-using athletes. This policy has hardly been a resounding success, yet each drug scandal produces yet more calls for the same old policies: more tests and harsher penalties. Since the introduction of drug testing, the proportion of athletes testing positive has remained remarkably constant, at between 1-2%. However, as the Dubin Commission (46) pointed out, the incidence of positive test results is a poor index – some would say so poor as to be almost worthless - of the extent of drug use in sport.

The most reliable evidence of the incidence of drug use in sport has come from official inquiries or from criminal trials, in both of which athletes have been required

to give evidence under oath. Such official inquiries – for example the US Senate Committee Hearings on Steroid Abuse in America (47), the report of a Senate Standing Committee to the Australian Parliament (48) and, most strikingly, the Dubin Commission Report in Canada (46) - all indicate that by the late 1980s, drugs were widely used – in some sports by over 50% of elite competitors – in many events and many countries. Nor is there any evidence that the problem has been brought under control in more recent years. In 1996, Anthony Millar, Research Director at the Institute of Sports Medicine in Sydney, Australia, wrote of an “epidemic of drug usage” in sport and said that the use of illicit drugs was “widespread and growing” (48b).

Two years later, the scandal in the 1998 Tour de France – which precipitated the establishment of WADA - revealed that doping was widespread, systematic and highly organised in professional cycling. Shortly before the start of the 2006 Tour de France, the Guardia Civil, a military and civilian police force in Spain, raided clinics and several apartments in Madrid and seized steroids, hormones, the endurance-boosting hormone EPO, nearly 100 bags of frozen blood and equipment for blood boosting. More than 200 leading athletes were implicated in this one doping network, including nine leading cyclists who were then prevented from starting the 2006 Tour de France (49). Perhaps the clearest indication of the size of the problem is the rapid increase in sales of drugs with doping potential since the late 1990s. It has been estimated that by 2000, worldwide sales of EPO had reached 4 billion euros, with only one sixth of these sales being for legitimate therapeutic purposes and the other five-sixths being bought by athletes (50). It should also be noted that most of the large scale doping networks have been revealed, not by anti-doping organisations within sport, but by police and customs officers in France, Belgium, Italy and Spain.

There is, then, little evidence that the preferred strategy of the IOC and WADA – a greatly increased number of doping controls (up from 94,000 in 1995 to 183,000 in 2005 (51-52) and more sophisticated methods of sample analysis - has met with much success. The great emphasis which has been placed on scientific and technological approaches is, perhaps, understandable, but it has not been very successful. The British Medical Association has noted (37) that few health policies are based on a single policy instrument, and “anti-doping policy is unusual in relying so heavily on deterrence”. For example, they note that attempts to reduce excessive alcohol consumption have combined education programmes, the erection of barriers



(such as licensing sales outlets) and deterrents (high excise duties). Perhaps, then, it is time for a new approach to anti-doping policies?

At first sight, the athletes' call for more education for athletes might seem to represent a new policy direction. However, this is not the case, for the athletes again appear merely to be echoing WADA's own limited view of what anti-drugs education involves, which appears to be little more than the provision of information about drugs and their possible effects on health. For example, although WADA states that education is a central part of its strategy, it defines its role simply in terms of educating athletes, coaches, doctors and others "about the dangers and consequences of doping" (53). This simplistic idea of education is reiterated when it describes its Athlete Outreach Programme as a means of "educating athletes and their support personnel about the dangers and consequences of doping" (54).

This approach appears to assume that athletes who use drugs do so largely out of ignorance and that the provision of accurate information about the health risks will change their behaviour. This raises two major problems. The first is that, at the elite level, few athletes who take drugs do so on their own, as isolated individuals; most are already receiving expert information, advice and monitoring from the many sports physicians who are prepared to offer their services to drug using athletes (55). Many of these physicians, like Dr Jamie Astaphan, who supplied steroids to Ben Johnson and many other world class athletes, become experts in steroid use. It is also clear that many drug using athletes develop a good deal of drug-related knowledge; indeed, it may well be the case that those athletes who are most knowledgeable about drugs and their effects are precisely those athletes who actually use drugs. But there is a second problem with this approach. As those involved in health promotion are well aware, changing health-related behaviour is a complex process and simply providing information about the health dangers associated with particular behaviours is not only unlikely, on its own, to have a major impact, but may even be counter-productive by leading to denial and avoidance of the message (56). It is also worth noting that Pill and Stott's study of changes in health-related behaviours shows the importance of precipitating life events and – very significantly – the minor role played by health concerns (57).

The simplistic attitude of anti-doping organisations towards, and their limited investment in, anti-drugs education has been widely criticised by scholars working in the field. For example, writing in 2004, John Hoberman argued that "there is no sign

that WADA intends to expand its anti-doping strategy beyond the search-and-sanction tactics that have been the standard operating procedure of anti-drug campaigns ever since the United States Government initiated its War on Drugs in 1909” (58) (p. 8-9). Similarly, Singler and Treutlein note that “What we are calling “negative pedagogy” is already well developed in the form of laws, controls and penalties, while ‘positive pedagogy’ has been neglected” (59) (p. 120); by the latter, they mean techniques designed to increase a sense of responsibility, an ability to take decisions and the ability to resist the temptation to use drugs.

As Houlihan has pointed out, the massive investment in the scientific and technological aspects of doping control “underscores the relative paucity of understanding of the psychological and social aspects of drug use ... Evidence about the motives of athletes is generally anecdotal and offers little beyond the bland assertion that athletes take drugs in order to improve their chances of winning. We know relatively little about how athletes start taking drugs, who introduces them to drugs, and how drug use varies by sport, age, gender or country” (60) (p. 206-7). Such information is essential if we are to develop more effective educational campaigns.

A similar point has been made by Bette, who points out that doping cannot be understood as the action of ignorant or ill-informed athletes who simply require more or better information; indeed, he suggests that, given the constraints of top level sport, “many athletes look upon doping as a rational choice of action”. He adds: “Because doping results from a social context, the context that produces doping must be changed. Anti-doping work is, therefore, best seen as ‘context management’ ” (61) (p. 109-110). There is however no evidence that this has yet impacted upon WADA’s educational programmes for athletes.

There is one further point to make about WADA anti-drugs policy. It can properly be said that, within WADA itself, there is no real expertise in anti-drugs policies. In 1996, Coomber noted that “there are many lessons to be learned about drugs, drug users and methods of control from the non-sporting world but those who make policy about drugs in sport are not drug policy experts, they are sport administrators” (62). Of course, we recognise that there are important differences between the sporting and non-sporting use of drugs; problems of drug addiction, for example, appear to be rare among athletes and there will also often be differences in the motivation for drug use, though one might note that, outside of the sporting context, anabolic steroids may be used for their performance-enhancing effects in

relation to occupations such as heavy manual labour and some occupations in the entertainment industry (63). But there are also important similarities between the two contexts: the overlap in the drugs used – particularly steroids and amphetamines – in the two contexts; and public concern about drug use, whether in the sporting or recreational context. In addition, Coomber noted that many of the public health issues involved in the use of drugs in a non-sporting context are not dissimilar to those involved in a sporting context. Thus athletes “may be using unsafe ways of administering their drugs, using unsafe drugs in unsafe ways, and [there] may even be unintentional transmission routes into the non-sporting world of sexually transmitted diseases such as HIV” (62) (p. 18). Given these similarities, it is perhaps surprising that WADA has made no attempt to draw upon the wealth of knowledge and experience of those who have been involved in anti-drugs campaigns within the wider society.

But there are the first signs that, perhaps in response to its critics, WADA may now be prepared to modify its approach. In 2005 WADA, for the first time, provided funding for a small number of social science programmes which, it said, would “help inform effective doping prevention education programmes” (64). This is a step in the right direction, though the limited funds provided for educational and social science research - \$100,000 - is dwarfed by the \$28 million WADA has put into scientific and technical research since 2001 (64).

## **CONCLUDING REMARKS**

WADA Chair, Richard Pound, recently stated: “In a generation or two, I hope that we have been able to educate the athletes, and their parents, teachers, coaches and entourages in a way so that the number of tests can be reduced” (65). Whether or not this goal is achieved will depend in part on the degree to which WADA is prepared to move away from its hitherto traditional and limited approach to “athlete education”. Until and unless it does so, and until WADA draws on the expertise gained from public health and anti-drugs campaigns in the wider society, anti-drugs campaigns within sport may not prove much more successful in the future than they have been in the past. And those who run those campaigns may be putting at risk the health of athletes.

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