



House of Commons
Science and Technology
Committee

Human Enhancement Technologies in Sport

Second Report of Session 2006-07

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**Human Enhancement
Technologies in Sport**

Second Report of Session 2006–07

*Report, together with formal minutes, oral and
written evidence*

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The Science and Technology Committee

The Science and Technology Committee is appointed by the House of Commons to examine the expenditure, administration and policy of the Office of Science and Innovation and its associated public bodies.

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Summary

Whilst there has been much progress in the fight against doping, more needs to be done. This is of particular importance since it is essential that the UK plays 'clean' and sets a good example for the 2012 Olympics. The UK Government needs to take a very strong stance against doping.

Whilst it is the athlete's own responsibility to ensure that they are not taking illegal substances into their bodies, more comprehensive education is required from the early stage (for example, by education of school children into risks of doping), throughout an athlete's career and for those in supporting roles (for example, coaches and medics).

An independent agency should be established for the investigation and prosecution of doping offences.

It is important to increase research into potential illegal HETs. It is also important to increase research into normal physiology to enable better understanding, and hence detection, of doping and the effects different HETs have. The development of a blood profiling passport would contribute to such research.

Better understanding of legal mechanisms for enhancing performance is required. Better horizon scanning of new developments (e.g. in medical research) is required. There is a need for increased funding for sports science. There is also a need for better translation of research from other disciplines into sport.

The UK should prepare to scale up drug-testing during the 2012 Olympics well in advance of the Games.

1 Introduction

The importance of sport

1. Sport is an important and economically significant industry in the UK. In March 2006, the Chancellor announced £200 million of public money for high performance sport through to 2012. This sum was to be added to the £60 million a year of public money already invested in UK Olympic and Paralympic success, and UK Sport indicated that another £100 million would be sought through private investment.¹ Over and above its economic importance, however, sport and sportspeople can have a strong influence over certain sections of society, particularly young people, inspiring new ambitions and setting examples of behaviour. Sport can also be important to the wider population, especially where success can contribute to general well-being and national pride. A good example of this is the winning of the UK bid to hold the 2012 Olympics in London, the first time the Olympics have been held in Britain since 1948.

Doping in sport

2. In sport, the term ‘doping’ refers to the use of performance-enhancing drugs which have been prohibited by sporting regulatory organizations. There have been many cases of doping in recent years. For example, in 2004, British cyclist David Millar was banned for two years after admitting using the banned hormone erythropoietin² and in July 2006, World and Olympic 100 metres champion Justin Gatlin admitted failing a drugs test for testosterone.³ During the time-frame of this inquiry, we have heard of many further doping scandals, including that of Pakistani fast bowlers Shoaib Akhtar and Mohammad Asif who tested positive for the banned substance nandrolone.⁴

3. The prevalence of doping in sport has been attributed to a number of factors. Athletes are often under significant pressure to deliver medal-winning performances. They may also face team pressure where success is dependent on the performance of all. There are often significant financial gains to be made from success in many competitive sporting events. Other factors contributing to doping in sport might include a perception that other sportsmen and women are doping and getting away with it and that competition is imbalanced should an individual athlete choose not to go down the same route. Finally, the ease of availability of many prohibited substances may be an exacerbating factor.

4. There is a perfectly logical line of argument which suggests that the use of enhancement technologies to improve athletes’ performance is no more than an extension of the training, nutrition and other regimes that are already deployed to this end. This, for some, points to total deregulation. For many more, the arguments against deregulation – that human enhancement techniques are potentially harmful to people, that they run

1 *UK Sport welcomes Budget Announcement*, 22 March 2006, <http://www.uksport.gov.uk/news/2284/>

2 “Millar in Doping Trial”, 8 November 2006, *The Daily Telegraph*

3 “Gatlin admits failing drugs test”, 29 July 2006, *BBC Sport*, <http://news.bbc.co.uk/sport1/hi/athletics/5227956.stm>

4 “Cricket bans divide the fans”, 2 November 2006, *BBC News South Asia*, http://news.bbc.co.uk/1/low/world/south_asia/6110164.stm

completely counter to the “spirit” of sport and that they are essentially a form of cheating – carry much weight. Like most of those involved, we do not support deregulation of human enhancement technologies in sport, but for a system of regulation to be effective, it must meet certain clear criteria. It must be equitable, it must respect the fundamental human rights of those engaged in sporting activities, it must be proportionate to the dangers it seeks to avoid, it must be as scientifically unimpeachable as it is possible to be and it must be well-administered and properly funded. This Report seeks to examine whether the present system of regulation of human enhancement techniques in sport meets these tests.

The inquiry

5. On 1st March 2006 we launched our inquiry into the use of human enhancement technologies (HETs) in sport. We believe that it would be of major credit to the United Kingdom if the 2012 Olympic Games were remembered as a major sporting event in which doping did not detract from its success. We therefore set out to ‘horizon-scan’ future illegal HETs and to determine the UK’s current arrangements for countering doping and its intentions for doing so during the 2012 Olympics. In addition, the Committee was keen to evaluate mechanisms by which UK athletes can be supported in their pursuit of sporting success, with particular interest in some of the legal mechanisms by which an athlete’s performance may be enhanced.

6. Given the broad subject area, the Committee decided to limit the scope of this inquiry to HETs which may be used to enhance human performance through changes to human physiology, for example with use of biological or chemical techniques. Use of equipment in either Olympic or Paralympic sports was therefore considered to be outside the remit of the inquiry.

7. In our press release (no. 24 of Session 2005—06), the Committee invited evidence on the following points:

- i) the potential for different HETs, including drugs, genetic modification and technological devices, to be used legally or otherwise for enhancing sporting performance, now and in the future;
- ii) steps that could be taken to minimise the use of illegal HETs at the 2012 Olympics;
- iii) the case, both scientific and ethical, for allowing the use of different HETs in sport and the role of the public, government and Parliament in influencing the regulatory framework for the use of HETs in sport; and
- iv) the state of the UK research and skills base underpinning the development of new HETs, and technologies to facilitate their detection.

8. We launched this inquiry with a public seminar in which we heard from Mr Linford Christie OBE, Olympic gold medal winner and Dr Roger Palfreeman, British Cycling Medical Officer. We also heard from Professor Ron Maughan of Loughborough University, Mr Steve Maynard from HFL Ltd (a WADA-accredited testing laboratory) and Professor Julian Savulescu from the University of Oxford.

9. We held four oral evidence sessions, during which we heard from:

- The Head of the Elite Sports Team at the Department for Culture, Media and Sport (DCMS), Mr Matthew Reader; Mr John Scott (Director) and Ms Allison Holloway (Education Manager) of the Drug-Free Sport programme of UK Sport.
- Professor Ian McGrath, University of Glasgow and current Chairman of the Physiological Society, Dr Anna Casey, a research leader from QinetiQ, Dr Bruce Hamilton, Chief Medical Officer at UK Athletics and Dr John Brewer, Director of Sports Science and the Lucozade Sport Science Academy at GlaxoSmithKline.
- Dr Richard Budgett, Chief Medical Officer of the British Olympic Association; and Professor Arne Ljungqvist, Chairman of both the International Olympic Committee (IOC) Medical Commission and the World Anti-Doping Agency (WADA) Health, Medical and Research Committee.
- The Right Honourable Richard Caborn MP, Minister for Sport, DCMS

10. The transcripts of these sessions are published with this Report, together with the written submissions received in response to our call for evidence and requests for supplementary information.

11. In July 2006 members of the Committee attended the European College of Sports Science (ECSS) 2006 conference held in Lausanne. This visit gave us the opportunity to learn about use of HETs in sport and the surrounding ethical debate. The Committee also travelled to Australia where we met, amongst others, representatives from the Australian Sports Commission (ASC) and the Australian Institute of Sport (AIS), the New South Wales Institute of Sport, the Court of Arbitration for Sport, the Australian Sports Anti-Doping Authority (ASADA), The Garvan Institute, the Therapeutic Goods Administration, Sports Medicine Australia and parliamentary representatives, including the Australian Minister for Sport Rod Kemp MP. We also visited the Loughborough University and English Institute of Sport (EIS) to enable us to compare UK sports training facilities with those we saw in Australia and to take the opportunity to discuss some of the issues surrounding sports science with UK academics. We are grateful to all who helped organise these visits and contributed evidence to this inquiry. We would also like to place on record our thanks to our specialist adviser, Professor Ron Maughan from the School of Sport and Exercise Sciences at Loughborough University.

2 Background

Sport in the UK

The Department for Culture, Media and Sport

12. The Department for Culture, Media and Sport (DCMS) is responsible for Government policy on sport. The DCMS website states that the Department's aim is "to encourage wider participation in sport, helping to create a more active nation and improve performance" and that their vision is that the UK be "re-established as a powerhouse in the sporting world".⁵

13. DCMS provides significant funding for sports provision and improving the quantity and quality of sporting opportunities. The Department aims to support equality in sport, community sport (for example, through funding of community sports clubs and skills training for coaches, trainers and teachers of sports) and professional sport (for example, through working with National Governing Bodies of sports [see below] to make sure that the interests of professional sport are well represented within Government). DCMS also committed over £1 billion during 2001-06 to the development of sports facilities, such as the new Wembley Stadium project.

UK Sport

14. UK Sport was established by Royal Charter in 1996 and is principally funded by, and accountable to, the DCMS. UK Sport co-ordinates sport policy and the support of elite sport at the UK level and manages and distributes public investment in sport. Of specific relevance to this inquiry, UK Sport is also responsible for the UK anti-doping programme.⁶ The main responsibilities outlined by UK Sport's Royal Charter are to:

- i. encourage and develop higher standards of sporting excellence in the UK;
- ii. identify sporting policies that should have a UK-wide application;
- iii. identify areas of unnecessary duplication, overlap and waste in the way that sport is administered in the UK;
- iv. develop and deliver appropriate grant programmes developed by the sport governing bodies with a UK or Great Britain remit in conjunction with the Home Country Sports Councils;
- v. distribute Lottery funds to UK-level sports with World Class Performance Plans in place;

5 http://www.culture.gov.uk/what_we_do/Sport/

6 "About UK Sport", http://www.uk sport.gov.uk/pages/about_uk_sport/

- vi. oversee policy on sports science, sports medicine, drug control, coaching and other areas where there may be a need for the Home Country Sports Councils to deliver a consistent UK-wide policy;
- vii. co-ordinate policy for bringing major international sporting events to the UK and use Lottery funds to support the bidding and staging process; and
- viii. represent the UK internationally and increase the influence of the UK at an international level.⁷

Sports Councils

15. While UK Sport operates at a UK level, the responsibility for developing sport on a home country basis, including the development of excellence and the provision of facilities, falls to the Home Country Sports Councils for England, Northern Ireland, Scotland and Wales. UK Sport takes a lead among the Sports Councils in all aspects of sport that requires strategic planning, administration and co-ordination. UK Sport also acts as the representative for the Sports Councils in matters of national benefit.⁸

National Governing Bodies

16. There is an enormous network of sports clubs throughout the UK, each of which is administered through the national governing body (NGB) for its sport. NGBs are the central point for a sport and the main support mechanism for athletes in a particular sport. They provide the link between recreation and development, training and competition and are involved in development of facilities and policy in the relevant sport. NGBs are also responsible for representing their members' interests to their sport's international federation and for establishing the rules for the sport or sports in conjunction with them. NGBs work closely with the Sports Councils and organisations such as the British Olympic Association in the co-ordination of team selection and preparation for international events.

17. NGBs sign up to the rules of the UK anti-doping programme and are responsible for investigating doping offences once a positive test result (for a banned substance) has been identified. NGBs are also responsible for the application of sanctions to athletes found guilty of doping offences.⁹

The English Institute of Sport

18. The English Institute of Sport (EIS), funded by the UK Sport Lottery fund, is a nationwide network of world class support services, designed to foster the talents of the UK's elite athletes. Services are offered from nine regional multi-sport hub sites and a network of satellite centres. The range of services supplied by the EIS spans sports science and sports medicine. Support includes applied physiology, biomechanics, medical consultation, medical screening, nutritional advice, performance analysis, psychology,

7 Doping Control Officer Handbook, *Doping and Sport*, <http://www.uk sport.gov.uk/images/uploaded/AntiDopingandUK.pdf>

8 "Sport in the UK", http://www.uk sport.gov.uk/pages/sport_in_the_uk/

9 "Model Rules for National Governing Bodies", http://www.uk sport.gov.uk/pages/national_anti_doping_policy/

podiatry, strength and conditioning coaching, sports massage and sports vision. There are almost 2,000 competitors currently in the EIS system.¹⁰

Anti-doping programmes

International Olympic Committee

19. The International Olympic Committee (IOC) is the supreme authority of the Olympic Movement. It is an international non-governmental non-profit organisation and the umbrella organisation of the Olympic Movement. Its primary responsibility is to supervise the organisation of the summer and winter Olympic Games and its role is to promote top-level sport as well as sport for all in accordance with the Olympic Charter.

20. Doping at the Olympic Games is banned for two reasons, according to the Olympic Movement Anti-Doping Code: first, the use of drugs is considered cheating, and second, drugs have adverse effects on the health of athletes.¹¹ Testing for drugs used to enhance performance has been carried out at the Olympic Games since they were held in Mexico in 1968, when Australia's Ron Clarke became the first athlete to be tested.¹² The IOC takes responsibility for determining Olympic testing programmes for doping. During the Salt Lake City Winter Olympics in 2002, the IOC worked with the WADA and national anti-doping bodies to ensure that 100 per cent of athletes were tested prior to attending the games, and it conducted testing of the top four athletes in an event and random testing throughout the duration of the games.¹³ The Turin 2006 Winter Olympics saw an overall increase of 72 per cent tests conducted when compared with Salt Lake City, with 838 urine tests (compared to 700 in Salt Lake City) and 362 blood tests (new compared to Salt Lake City).¹⁴

The World Anti-Doping Agency

21. The World Anti-Doping Agency (WADA) was created in 1999 to promote, co-ordinate, and monitor at the international level the fight against doping in sport in all its forms. WADA seeks to uphold a doping-free culture in sport and it combines the resources of sports and governments to "enhance, supplement, and co-ordinate existing efforts to educate athletes about the harms of doping, reinforce the ideal of fair play, and sanction those who cheat themselves and their sport".¹⁵ As a mechanism for promoting a doping-free culture, WADA fosters the development of national anti-doping programmes and organisations.

10 "Who we are", http://www.eis2win.co.uk/gen/who_01_whogetswhat.aspx

11 "Olympic Movement Anti-Doping Code". Lausanne, Switzerland: International Olympic Committee, 1999.

12 "Drug testing at the Sydney Olympics, *Medical Journal of Australia*, http://www.mja.com.au/public/issues/173_06_180900/corrigan/corrigan.html

13 http://multimedia.olympic.org/pdf/en_report_441.pdf, "Post Games Report, Salt Lake City", 8 February - 24 February 2002, IOC Medical Commission

14 "Torino 2006: figures on doping tests", http://www.olympic.org/uk/organisation/commissions/medical/full_story_uk.asp?id=1718

15 WADA Mission, <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=255>

22. WADA received its first two years of funding (US \$18.3 million) from the IOC on behalf of the Olympic Movement and is currently funded equally by the IOC and national governments. In 2006, the UK contributed US \$647,531 to WADA within the total European contribution of US \$4,911,586.¹⁶

23. WADA's key activities include:

- i. monitoring acceptance of and compliance with the World Anti-Doping Code;
- ii. educating athletes through the athlete outreach programme;
- iii. providing anti-doping education to athletes, coaches, and administrators;
- iv. funding scientific research to develop new detection methods;
- v. conducting unannounced out-of-competition doping control among elite athletes;
- vi. observing the doping control and results management programmes of major events;
- vii. fostering the development of National Anti-Doping Organisations (NADOs) and of anti-doping programmes;
- viii. accreditation of the laboratories in charge of the analysis of samples;
- ix. the preparation and review of the annual List of Prohibited Substances and Methods; and
- x. the implementation of ADAMS (Anti-Doping Administration & Management System), a web-based database management system that co-ordinates anti-doping activities and helps stakeholders meet their responsibilities under the Code.¹⁷

The WADA Code

24. The WADA Code, which was adopted in March 2003, is the universal document upon which the WADA programme is based. The Code adheres to the fundamental WADA principle that doping is contrary to the "spirit of sport".¹⁸ WADA interprets the term "spirit of sport" as "the essence of Olympism and how we play true". The WADA Code also states that the spirit of sport is the "celebration of the human spirit, body and mind" and that it is characterised by a number of values including: ethics, fair play and honesty, health, dedication and commitment and respect for laws and rules.¹⁹

25. The purpose of the WADA Code is to advance anti-doping effort through universal harmonisation of core anti-doping elements. The Code clarifies the responsibilities of stakeholders and brings harmonisation where rules or policies vary between different

16 WADA, 2006 contributions, http://www.wada-ama.org/rtecontent/document/Funding_2006_en.pdf.

17 WADA 'What is the code', Q and A on the Code: <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=367>

18 The World Anti-Doping Code. Fundamental Rationale for the World Anti-Doping Code, http://www.wada-ama.org/rtecontent/document/code_v3.pdf

19 As above

sports and countries. For example, the organisations that sign up to the Code have to accept the WADA List of Prohibited Substances and Methods. Under the Code, WADA has the power to conduct testing and closely monitors doping cases.

The Prohibited List

26. The Prohibited List is an international standard which identifies substances and methods prohibited in competition, out of competition, and in particular sports. Substances and methods are classified by categories, for example as steroids, stimulants or for potential use in gene doping.²⁰ The List is broken down into sub-lists which indicate: substances and methods prohibited at all times (in and out of competition); substances and methods specifically prohibited in competition (such as amphetamine); and those prohibited in particular sports, for example, alcohol which is prohibited in a number of sports including archery, motorcycling and karate.²¹

27. Some of the substances featured on the WADA List are also controlled substances under UK legislation (Misuse of Drugs Act 1971) but their inclusion on the list is determined by a judgement by WADA of whether two out of the three following criteria apply:

- the substance or method enhances or has the potential to enhance sporting performance;
- the use of the substance or method represents an actual or potential health risk to the athlete;
- the use of the substance or method violates the spirit of sport described in the introduction to the Code.

A substance or method is also banned if it has the potential to mask the use of other Prohibited Substances and Prohibited Methods.²²

Therapeutic Use Exemptions

28. There are occasions when athletes need to take prohibited substances for the legitimate treatment of medical conditions. The WADA Code therefore permits athletes and their physicians to apply for a Therapeutic Use Exemption (TUE) which gives permission for an athlete to use, for therapeutic purposes, any of the substances or methods contained in the List of Prohibited Substances and Methods. The criteria for granting a TUE are as follows:

- the athlete would experience significant health problems without using the prohibited substance or method;
- the therapeutic use of the substance would not produce significant enhancement of performance; and

20 The WADA 2006 Prohibited List , http://www.wada-ama.org/rtecontent/document/2006_LIST.pdf

21 As above

22 WADA Code, The Prohibited List, p15, http://www.wada-ama.org/rtecontent/document/code_v3.pdf

- there is no reasonable therapeutic alternative to the use of the otherwise prohibited substance or method.²³

29. WADA has developed an international standard for TUE to ensure that the process of granting therapeutic use exemptions is harmonized across sports and countries. The international standard for TUE includes criteria for granting a TUE, confidentiality of information and the TUE application process.²⁴

30. In the UK, a TUE is granted by either the International Federation for a sport or UK Sport (as the National Anti-Doping Agency) who are then obliged to inform WADA so that it may have the opportunity to review this decision. WADA has two main roles in the TUE process. First, WADA reserves the right to monitor and review any TUE granted by a federation or anti-doping agency, and athletes who requested a TUE and were denied can ask WADA to review that decision. If WADA determines that a denial of the TUE did not comply with the International Standard, the Agency can reverse the decision. Secondly, WADA has powers of intervention in ensuring that TUEs are consistently granted. During the Olympics, the IOC Medical Commission appoints a Therapeutic Use Exemption Committee (TUEC) to assess each TUE application.²⁵

31. Athletes may apply for either a standard or an abbreviated TUE. A standard TUE must be supported by medical records or reports proving that the athlete has the determined condition and requires medication on the Prohibited List. An abbreviated TUE application form does not require such documentation and is only for the use of glucocorticosteroids by non-systemic routes (local routes of administration [for example, an inhaler] other than dermatological applications, which are not prohibited and do not require any TUE) and beta-2 agonists, for example, the asthma drug salbutamol which is taken by inhalation.²⁶

WADA testing programme

32. WADA runs a worldwide out-of-competition testing programme, focused on elite athletes, which complements national testing programmes. Since out-of-competition tests can be conducted anytime, anywhere, and without notice to athletes, WADA considers that they are the most effective means of deterrence and detection of doping.²⁷ WADA also participates in a taskforce with the IOC and the relevant Olympic Games Organizing Committee to ensure effective testing prior to and during the Games.²⁸

The UNESCO Convention

33. Signatories to the WADA Code must make sure that their own rules and policies are in compliance with the mandatory articles and other principles of the Code. However, since

23 Therapeutic Use Exemptions, <http://www.wada-ama.org/en/exemptions.ch2>

24 International Standard for Therapeutic Use Exemptions, http://www.wada-ama.org/rtecontent/document/international_standard.pdf

25 The International Olympic Committee Anti-Doping Rules applicable to the XX Olympic Winter Games in Turin, 2006, http://multimedia.olympic.org/pdf/en_report_1018.pdf

26 Therapeutic Use Exemptions, <http://www.wada-ama.org/en/exemptions.ch2>

27 WADA Doping Control, <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=338>

28 As above

governments cannot be legally bound by a non-governmental document such as the Code, an International Convention under UNESCO (the United Nations body responsible for education, science, and culture) was drafted to allow formal acceptance of both WADA and the Code. The UNESCO-led International Convention against Doping in Sport was subsequently adopted by the 33rd UNESCO General Conference in Paris in October 2005²⁹ and 30 nations have now signed up.³⁰

UK anti-doping policy

UK Sport

34. UK Sport is the UK's recognised National Anti-Doping Organisation and as such, is responsible for the planning, collection and management of anti-doping controls in this country. With the support and backing of the DCMS, UK Sport has developed a national anti-doping policy for the UK.³¹ The UK's national anti-doping policy sets out UK Sport's commitment to the WADA Code, and outlines the roles and responsibilities of all parties involved in the anti-doping process. Fundamental to the UK anti-doping policy, and in line with the WADA Code, is the UK Sport-held principle that "doping in sport is cheating" and "contrary to the spirit of sport".³² The principal aim of the policy is "to protect an athlete's fundamental right to participate in doping-free sport and thus promote health, fairness and equality for athletes in the UK".³³ The UK Sport Policy is applicable to all sports which receive funding from either UK Sport or one of the home country sports councils. Through the Policy, UK Sport aims to:

- i. protect athletes and other participants in sport in the UK;
- ii. promote doping-free sport in the UK;
- iii. establish consistent standards of anti-doping policy, testing and education across the UK; and
- iv. encourage and build upon national and international harmonisation of anti-doping in sport.³⁴

35. The UK anti-doping policy is accompanied by a set of Model Rules which provide detail on specific aspects of the anti-doping programme, including testing, results management, disciplinary hearings and sanctions. They also set out in detail the provisions for implementing the Code and the UK anti-doping programme requirements.³⁵

29 Ev 61

30 Q 322

31 Ev 62

32 The UK's National Anti-Doping Policy,
http://www.uk sport.gov.uk/assets/File/Generic_Template_Documents/Drug_Free_Sport/policy_160505.pdf, para 3

33 As above, para 4

34 The UK's National Anti-Doping Policy,
http://www.uk sport.gov.uk/assets/File/Generic_Template_Documents/Drug_Free_Sport/policy_160505.pdf

35 Model Rules for National Governing Bodies,
http://www.uk sport.gov.uk/assets/File/Generic_Template_Documents/Drug_Free_Sport/Model%20Rules%20-%20full%20final%20version.pdf

36. UK Sport manages UK anti-doping activities through its 'Drug-Free Sport' programme which had a budget of approximately £2.2 million for the period 2005 – 06. Under this programme, UK Sport oversees anti-doping education for athletes and a drug information database which enables athletes and support staff to check whether or not pharmaceutical products contain prohibited substances.³⁶

UK Sport testing programme

37. UK Sport also manages the UK's drug testing programme which aims to:

- ensure that a minimum of 7,000 tests are conducted over the period 2006-07, all of which will be carried out in line with the standards set out in the WADA Code;³⁷
- ensure that at least 55 per cent of tests across all sports are no notice, out-of-competition tests;³⁸
- progress the development of an 'intelligent testing' regime to govern appropriate allocation of testing across all sports.³⁹

38. All testing takes place at no notice to the competitor and UK Sport selects events and training sessions to be tested based on recommendations made by the national governing bodies. Testing is weighted against a number of criteria, including whether there is a history of doping in the sport; the international status of the sport (Olympic, Commonwealth); the potential for drug misuse in the sport; and the public/media impact of a doping infraction in that sport.⁴⁰ Testing is targeted towards the elite competitive level of a sport and includes athletes named on the national and international athlete pool. Testing at elite youth level is also conducted.⁴¹

39. UK Sport conducts most of its testing 'out of competition'. UK Sport told us that "over 50 per cent of all tests UK Sport conducts are now out-of-competition tests", with the allocation of these being increasingly governed through the concept of 'intelligent testing'. The term 'intelligent testing' refers to a focus on testing in association with key triggers within athletes' performance and training cycles, identifying areas of 'maximum risk' of potential doping. This could include, for example, athletes returning from injury or preparing for major events. Through intelligent testing, UK Sport claims that it is able to "maximise the deterrent effects of the programme".⁴²

40. UK Sport trains independent Doping Control Officers (DCOs) to take either blood or urine samples from athletes. All samples, whether taken by UK Sport or WADA, are

36 <http://www.uk sport.gov.uk/>

37 UK Sport manifesto for 2006-07, http://www.uk sport.gov.uk/assets/File/Generic_Template_Documents/Drug_Free_Sport/DFS_manifesto_0607.pdf

38 "Record number of tests in the past year", UK Sport press release, 24 April 2006, <http://www.uk sport.gov.uk/news/2316/>

39 As above

40 Doping Control Officer handbook, organising testing, http://www.uk sport.gov.uk/images/uploaded/3_OrganisingTesting.pdf

41 As above

42 Ev 60

analysed at WADA-accredited laboratories. The UK currently has two WADA-accredited laboratories: The Drug Control Centre based at King's College London and the Drug Surveillance Group, HFL Ltd, Newmarket.

41. During testing, two samples (A and B) are taken for analysis. Following laboratory analysis of the A-sample, if no prohibited substances are found, a negative result will be reported to the relevant governing body or international sports federation and the B-sample destroyed. This report is usually available within 10 days of the sample collection (although, if required, results can be made available within 24 hours during a major competition). If the sample is positive, the process to deal with adverse findings falls into three stages: Review, Hearing and Appeal. The athlete may also request testing of the B sample where a positive result has been found.

Disputes in doping cases

42. Legal disputes in cases of doping are resolved through the Court of Arbitration for Sport (CAS). CAS was originally conceived by then IOC President Juan Antonio Samaranch to deal with disputes arising during the Olympics and, although established as part of the IOC in 1984, it is now a fully independent body. CAS is an institution independent of any sports organisation, providing services to facilitate settlement of sports-related disputes either through arbitration or mediation, by means of procedural rules adapted to the specific needs of the sports world. CAS is placed under the administrative and financial authority of the International Council of Arbitration for Sport (ICAS) and has nearly 300 arbitrators from 87 countries who have been chosen for their specialist knowledge of arbitration and sports law.⁴³

The ethics of doping

43. WADA and UK Sport take a strong stance against doping, with the view that it is against the 'spirit of sport', a value characterised by ethics, fair play and honesty, health, dedication and commitment and respect for laws and rules.⁴⁴ UK Sport told us that "doping has no place in sport" and that they "do not believe that the values that sport is meant to represent are helped in any way by people engaging in doping practices".⁴⁵

44. However, during the course of this inquiry, we heard the view expressed that doping is not in itself detrimental to sport. Professor Julian Savulescu from the University of Oxford told us that performance enhancement "is not against the spirit of sport" and that "there is no reason sport must remain purely a test of natural ability".⁴⁶ Furthermore, Professor Savulescu felt that anti-doping legislation should be removed "to permit safe performance enhancement".⁴⁷ In addition, when Members of the Committee attended the annual European College of Sports Science conference in Lausanne, we were interested to hear

43 Court of Arbitration for Sport, <http://www.tas-cas.org/en/histoire/frmhist.htm>

44 The World Anti-Doping Code. Fundamental Rationale for the World Anti-Doping Code, http://www.wada-ama.org/rtecontent/document/code_v3.pdf

45 Q 89

46 Ev 80

47 As above

presentation of arguments that “the current anti-doping campaign reflects an erosion of reason that is caused by a growing fear of scientific progress”⁴⁸ and that a more “liberal stance towards doping” should be taken in general.⁴⁹

45. The ethical debate is of particular interest when considering where the line should be drawn between what may be considered fair use of a mechanism for enhancing performance and what should be prohibited and thus classified as doping if used in sport. For example, whilst use of anabolic steroids which increase strength by encouraging muscle growth is banned, technologies such as eye laser therapy, used to dramatically enhance vision, are not. This is more than merely a philosophical question since the mechanism whereby the ethics of performance enhancement are taken into account by WADA and UK Sport is unclear. Whilst WADA have put in place an Ethics and Education Committee, the main role of this Committee appears to be in developing educational initiatives for athletes about the dangers and consequences of drug use in sports, as opposed to consideration of the ethics of doping or of the ethical arguments for listing certain items on the WADA Prohibited List.⁵⁰ We discuss this further below (see paragraph 62).

46. In addition, it is interesting that whilst WADA and UK Sport fund research, primarily into the detection of doping, we have found it difficult to track down sources of funding for research into the ethics of whether doping is problematic.⁵¹ **We believe that ethics are an important consideration in the fight against doping and are concerned that limited attempts are being made to address this issue. We recommend that UK Sport establish a Committee to examine the ethical aspects of doping in sport and advise WADA on possible changes to the consideration of ethical issues within its operations. We also believe that UK Sport and WADA should consider the case for funding research into the ethics of doping.**

48 *What's wrong with anti-doping: some thoughts concerning the fear of modernity and erosion of reason*, Professor Verner Moller, University of Southern Denmark. Abstract in conference proceedings. European College of Sports Science annual conference, Lausanne.

49 *What's wrong with gene doping: some slippery slopes arguments*, Professor Mike McNamee, University of Southampton

50 Ethics and Education Committee Meeting Minutes, July 2005, http://www.wada-ama.org/rtecontent/document/Minutes_07_1718_2005_EEComm.pdf

51 List of WADA supported research projects, <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=332>

3 The culture of doping

Prevalence of doping

47. The Culture, Media and Sport (CMS) Select Committee, who held an inquiry during 2004 into drugs and role models in sport, concluded that there are relatively few athletes involved in doping in the UK.⁵² This opinion is supported by figures from the UK Sport testing programme in which of the 7,968 tests taken in 2005-06, only 1.3 per cent were found positive for banned substances.⁵³ There is, however, a slightly higher incidence of doping on the international circuit. WADA publishes an annual overview of the results reported by the accredited anti-doping laboratories, which shows that the number of adverse analytical findings for 2005 was approximately 2.1 per cent.⁵⁴

48. We were interested to determine whether recorded incidences of doping were an accurate reflection of its actual prevalence. Dr Bruce Hamilton from UK Athletics told us that he could “only suppose that [the illegal use of enhancement techniques] is widespread”⁵⁵ and that looking at positive test results as a measure of utilisation was unreliable.⁵⁶ Dr Richard Budgett of the British Olympic Association (BOA) told us that a lot of athletes and many professionals involved in anti-doping policy suspect that there are people who go undetected⁵⁷ and that, whether or not it is the case, there is perception that many athletes are cheating, with the result that athletes who had been found guilty of doping offences justified their actions by saying “lots of other people are cheating, most of my competitors are cheating, so I am just levelling the playing field”.⁵⁸

49. We were also interested to determine whether there is higher prevalence of doping in particular countries or sports. Professor Arne Ljungqvist, representing the IOC and WADA, told us that “quite a number of those found and finally judged to be guilty of doping offences come from the former eastern European countries”⁵⁹ and that, prior to the creation of the United States Anti-Doping Agency (USADA), there had been a “major problem with the United States”.⁶⁰ Dr Budgett told us that doping is more prevalent in certain sports and that in his own sport of rowing “there is a low prevalence of doping whereas in some other sports, like cycling, there are more cases”.⁶¹ When questioned further on why cycling should demonstrate a higher frequency of doping cases, both Dr

52 Culture, Media and Sport Committee, Seventh Report of Session 2003-04, *Drugs and role models in sport: making and setting examples*, HC 499-I Para 47, <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmcmds/499/499.pdf>

53 UK Sport Test results, http://www.uk sport.gov.uk/images/uploaded/report_270406.pdf

54 WADA 2005 Adverse Analytical Findings Reported by Accredited Laboratories., http://www.wada-ama.org/rtecontent/document/LABSTATS_2005.pdf

55 Q 166

56 Q 167

57 Q 198

58 Q 199

59 Q 202

60 Q 203

61 Q 205

Budgett and Professor Ljungqvist considered that this was the ‘culture’ of the sport⁶² and that there is “a great deal of money in professional cycling and therefore the stakes are much higher, and that will drive people to cheat”.⁶³ When discussing this issue informally with coaches and athletes in Australia and the UK, we found a general acceptance of the suggestion that doping was common in cycling.

50. We conclude that the official figures on the incidence of doping may well not accurately reflect the scale of the problem. We are also concerned that there is a perception that use of illegal substances in sport is widespread. It appears that doping is more prevalent in certain sports and countries and that this may be attributed to the ‘culture’ of these sports. **We recommend that UK Sport commission research into the real incidence of doping both in general and in particular sports in order that the magnitude of the problem may be understood and the means of tackling it may be better defined.**

Obtaining banned substances

The deliberate doper

51. We also looked at how athletes obtain illegal human enhancement technologies and raised the question of whether there is an element of pressure from athletes on their support staff, for example coaches or sports medics. Dr Bruce Hamilton of UK Athletics told us that team doctors “are always being asked to push the envelope where that grey area is within what is legal and what is not legal”.⁶⁴ Dr Budgett of the BOA reported incidences where, within a team, athletes were expected to be prepared to take banned substances, “otherwise you were letting the team down”.⁶⁵ His conclusion was that doping is generally driven by the individual and that those athletes who are involved in using banned performance enhancement technologies “spend a great deal of their time and energy covering up and worrying about it”.⁶⁶

52. There is easy access to banned substances for those athletes wishing to enhance their performance illegally. A range of companies supply banned substances over the internet. The European Specialist Sports Nutrition Alliance (ESSNA) drew attention to products that contain substances which are specifically banned by WADA but may be perfectly legal for general sale to ordinary consumers,⁶⁷ and we were surprised by the ease by which such compounds may be obtained. For example, the beta-blocker atenolol, used medically to treat high blood pressure and other heart conditions by reducing the heart rate and the heart’s output of blood, is readily available for purchase via the world wide web, despite being classified as on prescription-only in the UK.⁶⁸ Atenolol is banned by WADA for use

62 Q 207-209

63 Q 210

64 Q 109

65 Q 211

66 As above

67 Ev 74

68 The Drugstore.com, <http://www.drugstore.com/pharmacy/drugindex/rxsearch.asp?drug=Atenolol&trx=1Z5002>

in competition.⁶⁹ The UK pharmaceutical company British Dragon produces a range of compounds such as ‘Dianabol’. Dianabol contains methandienone, a steroid derivative of testosterone with strong anabolic (tissue building) and androgenic (controls the development and maintenance of masculine characteristics) properties and which increases protein metabolism and synthesis thus boosting muscle mass.⁷⁰ Methandienone is listed on the 2006 WADA Prohibited List⁷¹ and controlled, as a class C drug, under the UK Misuse of Drugs Act 1971. **We are concerned at the ease by which banned, and potentially dangerous, substances can be obtained for use by athletes and we recommend that the Government review regulation in this area.**

Accidental use

53. There is also evidence to support the theory that many athletes may take illegal performance enhancement technologies without knowingly doing so, for example through the consumption of contaminated nutritional supplements. Dr Anna Casey from QinetiQ told us that she considers that “one of the major threats” to the 2012 Olympics is potential contamination of food supplements, taken in good faith by athletes.⁷²

54. WADA has been aware of potential contamination of food supplements and the problems this may cause for some time. Professor Ljungqvist told us that during the first two years of WADA’s existence, a working group was established to look into the area of food supplements. The research carried out by a group in Cologne, led by Hans Geyer, showed that between 15 and 20 per cent of the food supplements tested were contaminated by or contained banned substances which were not indicated on the labels.⁷³ This evidence is, however, disputed by ESSNA who have told us in written evidence that although it has been alleged that “there are unscrupulous manufacturers who place on the market products that contain prohibited and sometimes dangerous ingredients and that there are also manufacturers who market products to elite athletes but who mislabel their products”, they have seen no “substantive evidence” to support this assertion and can see no commercial benefit to a company from adopting such behaviour.⁷⁴

55. Dr John Brewer, representing GlaxoSmithKline (GSK), recognised that, since there is a plethora of supplements that are available for athletes, “it is always going to be very difficult and very confusing for the athletes to know what works and also what is free of banned substances”. Mr Brewer therefore made the plea for a recognised standard of labelling of such products.⁷⁵ Dr Casey supported this view, telling us that “that there has to be, between now and 2012, more effort put into making available certified, contaminant-free food

69 The 2006 List of Prohibited Substances International Standard, http://www.wada-ama.org/rtecontent/document/2006_LIST.pdf

70 Roid 4 Sale website (distributor of British Dragon products), http://www.roid4sale.com/products.php?action=product&keyword=dianabol_10mg

71 The 2006 List of Prohibited Substances International Standard, http://www.wada-ama.org/rtecontent/document/2006_LIST.pdf

72 Q 175

73 Q 312

74 Ev 74

75 Q 173

supplements”.⁷⁶ Mr John Scott from UK Sport agreed that “the whole issue of supplements remains a major challenge” and that UK Sport would “love to see an industry standard in the supplements area”.⁷⁷

56. Dr Brewer also told us that the products GSK produces are currently tested at HFL Ltd, one of the UK’s WADA-accredited testing laboratories, to ensure that all of their products are free of substances on the WADA banned list.⁷⁸ However, a “major concern” for GSK at the moment is that there is a suggestion that WADA may remove their accreditation from laboratories testing manufacturers’ supplements. Mr Brewer felt that this “is a very backward step for WADA to be taking” since having such quality assurance for athletes is important.⁷⁹ Professor Ljungqvist from WADA explained the rationale behind the decision to remove accreditation from WADA laboratories testing commercial supplements. He said that if a laboratory tests or is asked to test certain food supplements to determine whether or not they may be contaminated, if the results show that they are not, it is not possible to conclude from that one result that subsequent batches will not be contaminated, and the laboratory may therefore risk issuing false and misleading reports. Professor Ljungqvist said that “we have told the laboratories not to become involved in an area which is so poorly regulated at the national levels”.⁸⁰

57. We firmly believe that it is the responsibility of the individual athlete to determine what is being taken into their own body. However, we also consider it important that an athlete has sufficient assurance on the purity of any non-prohibited substance they may wish to consume. We believe that accreditation of laboratories testing commercial supplements for use in sport provides such assurance to athletes. **We do not believe that it is in the best interest of the athlete for WADA to remove its accreditation from laboratories testing commercial supplements for use in sport. We recommend that the Minister for Sport maintain pressure on WADA to secure the continuing accreditation of laboratories which also test commercial supplements. In addition, we recommend UK Sport take the lead in working with relevant bodies to put in place a certification system for supplements used in sport to regulate against contamination of food supplements and provide assurance to athletes on the purity of what they are taking.**

58. Athletes may also accidentally take a banned substance because they do not realise that such a substance is contained within the Prohibited List. For example, we heard from Dr Hamilton of UK Athletics that athletes may accidentally take ephedrine, a decongestant found in many cold remedies and that “we can all make those mistakes”.⁸¹ We also heard that medical practitioners may not always be aware of the WADA Prohibited List, and the substances and technologies on it, or understand the implications for athletes of using certain substances. John Scott from UK Sport told us that his organisation puts “a lot of effort” into ensuring that there is education material available to doctors to enable them to

76 Q 175

77 Q 63

78 Q 121

79 Q 163

80 Q 310

81 Q 173

make informed decisions with regard to specific athletes who are elite performers.⁸² However, UK Sport's effort in this area may not be sufficient. Dr Bruce Hamilton of UK Athletics told us that what is and is not acceptable for the medical treatment of athletes can be confusing to doctors. He raised the use of glucocorticoids, steroids used to provide relief for inflamed areas of the body. Glucocorticoids may be used to treat joint inflammation, as a corticoid steroid injection or through the mouth, for example in arthritis. Use of glucocorticoids through either of these routes is prohibited without a TUE. However, glucocorticoids can also be taken as a nasal preparation, for example for allergic rhinitis, use of which is which is not prohibited by WADA. Dr Hamilton felt that whether such substances and their routes of administration could be used was sometimes unclear to doctors and that differences in regulation between use of the same substance, for example via different routes, could be "subtle".⁸³ We are concerned that doctors may not always understand what is deemed acceptable treatment for athletes. **We recommend that UK Sport consult upon and review its education material aimed at general practitioners and other medics on the issues faced by athletes, providing further education if this is deemed necessary to clarify WADA prohibited substances and the routes via which such substances may be given.**

82 Q 68

83 Q 190

4 Prevention and detection of doping

The WADA Code

59. Throughout this inquiry we have heard much support for WADA and the WADA Code in the steps it has taken in the fight against doping. Michele Verroken, from the sports business consultancy Sporting Integrity, told us that “the Code has been a major step forward in harmonising certain aspects of drug misuse management across different sports and countries of the world”.⁸⁴ Mr Matthew Reader, representing the DCMS, agreed with this view, stating that “the adoption of the code and the establishment of WADA is a huge leap forward in terms of fighting doping in sport”.⁸⁵ We also heard from Dr Bruce Hamilton of UK Athletics that WADA has “revolutionised” their approach to doping in sport.⁸⁶

60. This level of praise for WADA is impressive, particularly in the light of the stringent conditions sporting bodies must meet in order to become compliant with the requirements of the Code. The sports consultant Michele Verroken believed that “code compliance has significantly occupied the sporting agenda”,⁸⁷ and during our oral evidence session with John Scott from UK Sport, we heard that it is important not to underestimate the difficulty of being code compliant. Mr Scott told us that underpinning code compliance is a “whole raft of operational challenges”⁸⁸ and that “making sure that the rest of the world steps up to the bar is the big challenge”.⁸⁹ UK Sport later told us, on an informal basis, that such challenges revolve around the professional competence and skill of those operating anti doping programmes, for example in relation to the time, education and support required to enable the national governing bodies to become compliant with the Code. One interpretation of this could be that countries with fewer resources should be excused full compliance with the Code. Dr Budgett of BOA, opposed this line and was categorical that the main challenge for individual countries was the need for “government time ... because legislation may have to be changed to be in compliance with the Code ... I do not think that it actually needs resources.”⁹⁰ He pointed out that the Code “does not say how many tests you have to do, it just says the structure you have to have in place and I think it is quite right that compliance is insisted on by WADA and the IOC.”⁹¹ We agree with this view.

84 Ev 84

85 Q 21

86 Q 197

87 Ev 84

88 Q 4

89 Q 90

90 Q 222

91 As above

The Prohibited List

61. Whilst there is clear support for WADA and the WADA Code in general, there are specific concerns regarding the Prohibited List. Debate about what should and should not be allowed in respect of performance enhancement is led by WADA which has the final say on what should be added to the Prohibited List. The criteria upon which WADA makes its decisions have been set out earlier in paragraph 27 of this Report.

62. During oral evidence, we heard from Dr Bruce Hamilton of UK Athletics that there is little “transparency” in the decision-making process with regard to items placed on the Prohibited List. He illustrated this by reference to the recent examination by WADA into whether use of artificial hypoxic chambers as a training aid should be on the list or not. Hypoxic chambers are used by athletes to simulate high altitude conditions and the use of chambers is controversial because it artificially raises red blood cell counts and hence the amount of oxygen which can be carried to the body’s tissues, including muscles. According to Dr Hamilton, WADA found that use of hypoxic chambers was indeed performance-enhancing and that whilst they were not sure whether or not it was dangerous, they felt that it was “against the spirit of sport”.⁹² However, in Dr Hamilton’s words, “at some point behind closed doors it was not put on the list”. He argued that “here is something which WADA have said meets their criteria but for undisclosed reasons has not been put on the list”,⁹³ thereby rendering the decision-making process opaque, to say the least. Similar points were made by Dr Hamilton regarding pseudoephedrine, which is often used as a decongestant in cold and influenza medication. Pseudoephedrine was recently taken off the Prohibited List but has subsequently been shown “to have performance enhancement capabilities”.⁹⁴ It remains unregulated by WADA.

63. When we discussed the issue of hypoxic chambers with Professor Ljungqvist, he explained that WADA conducted an investigation and wide consultation on whether or not use of hypoxic chambers should be banned and that this “resulted in a clear message from our stakeholders not to include it on the List”.⁹⁵ However, Professor Ljungqvist did allude to a “difference of opinion” about this outcome and that members of the WADA ethical panel “felt that it was not in accordance with sports ethics”, whereas “others” felt it was.⁹⁶ On pseudoephedrine, Professor Ljungqvist argued that this was “a minor substance” but that it was now in the process of being reviewed again because “a different scientific argument has come up” regarding the metabolism of pseudoephedrine into cathine, a substance on the banned list.⁹⁷ We are grateful for these explanations but we remain disappointed by the lack of transparency at WADA relating to how decisions regarding the inclusion of substances on the Prohibited List are made. We believe that lack of transparency in the Prohibited List sends out a poor signal to athletes and that WADA should justify each decision made within the criteria which it has itself set. **We urge DCMS and UK Sport to press WADA for clear reasoning to be given for each substance and**

92 Q 186

93 As above

94 Q 126

95 Q 231

96 Q 232

97 As above

method included on the Prohibited List and for its decisions in cases where substances and methods are examined but not banned. As a general rule, we should like to see increased attention paid by WADA to the science behind substances and methods considered for inclusion in the List.

Recreational or social drugs

64. The Prohibited List includes a number of recreational or ‘social drugs’ currently controlled in the UK under the Misuse of Drugs Act 1971 that do not have obvious performance-enhancing capacity. Cannabis is an example of such a substance where some experts such as Professor Hans Hoppeler from the University of Bern believe that use of this drug “is not doping”.⁹⁸ There have been a number of cases of athletes taking recreational drugs, for example, footballers Shaun Newton, who was banned from West Ham for seven months, and Adrian Mutu, who was sacked from Chelsea. During oral evidence, the Minister for Sport, the Right Honourable Richard Caborn MP, told us that he would wish to “look very seriously” at the Prohibited List with a view to removing what he believes are “social drugs”.⁹⁹ The Minister felt that WADA’s role was to root out cheats in sport and to stop athletes using drugs which enhance performance, rather than to be in the “business of policing society”.¹⁰⁰

65. There is disagreement on the effect of social drugs upon performance. For example, Dick Pound, head of WADA, has argued “who’s to say that by taking cannabis in a sport like gymnastics, where there is a fear element, you are not giving yourself an advantage by being more relaxed?”¹⁰¹ **We are concerned at the approach taken by the Government to the use of recreational drugs in sport where they may be performance-enhancing and against the spirit of sport, and we urge the Government to conduct further research to ascertain the possible performance-enhancing capacity of social drugs in sport.**

Therapeutic Use Exemptions

66. During this inquiry, it became clear that there is a perception that the TUE system is subject to abuse. UK Sport told us that they are concerned “about the international consistency of the application of TUEs”.¹⁰² Indeed, there are claims that some sports show an unduly high proportion of TUE registrations, for example, cycling where use of asthma-treating steroids, such as salbutamol, is supposedly widespread. Professor Ivan Waddington (from the Centre for Research into Sport and Society at the University of Leicester) gave a lecture at University College Chester in April 2004 in which he referred to “concern surrounding the fact that, among elite international athletes today, the claimed incidence of asthma is several times higher than that in the general population”. He went on to argue that “there is no obvious medical reason why this should be the case” and that “the suspicion must be that the widespread diagnosis of asthma among elite level athletes is

98 Ev 97

99 Q 321

100 Q 320

101 “Minister under fire over ‘soft’ drugs call”, 12 December 2006, [http://www.politics.co.uk/news/domestic-policy/drugs/cannabis/minister-under-fire-over-soft-drugs-call-\\$460912.htm](http://www.politics.co.uk/news/domestic-policy/drugs/cannabis/minister-under-fire-over-soft-drugs-call-$460912.htm)

102 Q 49

part of a common strategy to avoid the normal sanctions associated with the use of performance-enhancing drugs of the kind which are used in some forms of anti-asthma medication”.¹⁰³

67. This view is by no means universally held. During oral evidence, we heard from both Dr Budgett of the BOA and Professor Ljungqvist of WADA and the IOC that the level of asthma incidence in UK athletes, which is at approximately 20 per cent, is directly comparable with that of the rest of the population.¹⁰⁴ Dr Budgett also gave his personal opinion that since “we in this country are the most efficient at filling out these abbreviated therapeutic use exemption forms in the British team, we have a reputation of having a much higher incidence of asthma than other Olympic teams”.¹⁰⁵ However, when asked by the Committee if he was confident that, for elite athletes, every TUE for drugs used in asthma is because exercise-induced asthma is proven, Professor Ljungqvist answered in the negative.¹⁰⁶ Furthermore, Professor Ljungqvist informed us that it was because of such concerns that the “IOC decided as from the Salt Lake City games to conduct their own investigations and not accept therapeutic use exemptions issued by other bodies”.¹⁰⁷

68. It is the abbreviated TUE process which has led to most concern. Dr Budgett of the BOA argued that TUEs “should all be considered therapeutic use exemptions, not abbreviated therapeutic use exemptions” and that an abbreviated TUE “is just a rubber stamp and is a complete waste of everybody’s time”.¹⁰⁸ He believed that “we should get rid of abbreviated therapeutic use exemptions” and “decide whether we really want people to prove that they have whatever the condition is and that they need the medication”.¹⁰⁹ Whilst we are not convinced that the TUE system is necessarily subject to widespread or systematic abuse, we are concerned that there is potential for such abuse. **We recommend that UK Sport press WADA for abolition of the abbreviated TUE system, and that UK Sport ensure that all TUEs in the UK are awarded on the basis of sufficient evidence that an athlete requires the medication for which the exemption has been awarded.**

Testing for use of illegal HETs

Intelligent testing

69. UK Sport conducts most of its tests out-of-competition, with allocation increasingly governed through the concept of ‘intelligent testing’. We applaud UK Sport for its efforts to identify time-points at which an athlete may be more likely to take illegal HETs. However, there appears to be scope for greater understanding of how banned substances work and when they need to be taken for best efficacy. We have seen little evidence that UK Sport is working with scientists to gain understanding of the effects and pharmacokinetics of

103 Anti-doping policy. A lecture delivered by Professor Ivan Waddington at University College Chester, 19 April 2004, <http://www.chester.ac.uk/ccrss/pdf/doping.pdf>

104 Q 238–240

105 Q 238

106 Q 243

107 As above

108 Q 246

109 As above

banned substances. Such information could include ascertaining when an athlete would need to stop taking a banned substance for it not to be detected during a competitive event, and thus could further enable testing at time-points when an athlete would be most likely to be using it. **We recommend that UK Sport further develop its research programme into the science behind doping and that it apply understanding of the effects and pharmacokinetics of banned substances to its testing programme to help further identify optimum testing time-points for doping in sport.**

70. WADA has testing agreements in place with, for example, the IOC and recognized International Federations. WADA conducts mainly out-of competition testing, focused on athletes competing at the international level (although it may also test national level athletes). A WADA priority is to test athletes who may not otherwise be subject to testing, for example those living in areas of the world without a national anti-doping programme. Rather than using random selection to pick all athletes to be tested, WADA claims that it has also adopted a scientific approach and selects a significant proportion of athletes based on factors such their recent performance, history of doping, and vulnerability to the temptation to take performance enhancing substances.¹¹⁰ WADA also participates in a taskforce with the IOC to ensure global testing prior to and during Olympic Games.¹¹¹

71. There is some concern with respect to international testing programmes. John Scott from UK Sport told us that he thinks “it would be fair to say there are a large number of tests internationally that are basically wasted because they are never going to catch someone who is doping in the way they are applied”. He added that “one of the agendas that is very much being debated internationally now is that it is not just about doping numbers, the test numbers that you do, it is about the effectiveness of those testing numbers”.¹¹² It is essential that there should be clear consistency between WADA and IOC and national testing programmes. We consider that UK Sport has an important role to play in sharing experience and knowledge of best practice built up through its own ‘intelligent testing’ programme. **We recommend that UK Sport work with WADA to help further develop WADA’s testing regime and increase the chance of catching athletes who are guilty of doping.**

Urine versus blood sample

72. Most of the testing undertaken by WADA (individually and on behalf of the IOC) and, on a national basis, by UK Sport is via urine samples. Professor Ljungqvist told us that “urine is by far the best bodily specimen to use for the purpose of anti-doping analysis” because substances that are contained on the Prohibited List are usually eliminated via urine.¹¹³ He was supported in this view by Bruce Hamilton of UK Athletics who pointed out that “there is no point in taking blood if we do not have an appropriate test”.¹¹⁴ Other

110 2005 Wada Out-of-Competition Testing Program, http://www.wada-ama.org/rtecontent/document/DOPINGCONTROL_2005_OOCT_Q&A_EN.pdf

111 World Anti-Doping Agency Programs, http://www.wada-ama.org/rtecontent/document/Presskit_WADA_Programs_en.pdf

112 Q 11

113 Q 239

114 Q 193

witnesses disagreed. For example, Professor Ian McGrath of the University of Glasgow told us that “there is an awful lot more in blood than there is in either saliva or urine”.¹¹⁵ With reference to the national testing programme, Michele Verroken of Sporting Integrity argued that the “UK’s testing programme must include routine testing of blood which is a basic pre-requisite for detection of certain prohibited substances and methods, such as growth hormone and EPO”.¹¹⁶ **Whilst we accept that most testing is satisfactorily carried out through urine, we are of the view that increased research may be needed to determine the most appropriate testing route for different prohibited substances and we urge the Government to consider supporting studies of this nature. In the meantime, we urge UK Sport to increase its programme for testing blood samples since this may facilitate more detailed testing for prohibited substances, either in the present or future** (see below).

Detecting the undetectable

73. In respect of the samples taken for testing, Bruce Hamilton of UK Athletics argued that “the challenges for us are developing tests for detection of substances that currently cannot be detected”.¹¹⁷ Certainly, it is problematic that some illegal HETs are currently undetectable. For example, as detection of erythropoietin, used to increase numbers of red blood cells and hence oxygen carried to body tissue, has become more advanced, athletes have reverted to blood doping to enhance their oxygen-carrying capacity. Increased use of blood doping, e.g. through autotransfusion, the process of drawing blood from an athlete, storing it until they have replenished their natural blood supply and then putting it back in thus increasing the red blood cell count, presents real problems for detection programmes. UK Sport explained that “an athlete growing and using their own blood makes it impossible to detect if the levels are below those reported for an adverse analytical finding”.

¹¹⁸

74. Since 2001 WADA has committed more than US \$28 million to scientific research as part of its commitment to increasing the volume of research dedicated to developing new and improved detection methods for performance-enhancing substances and methods. UK Sport has also committed itself to a long-term research programme in which detection of doping is key. These efforts are being co-ordinated through what UK Sport described as a well-established partnership between itself, the WADA-accredited laboratories and universities conducting anti-doping research.¹¹⁹

75. We applaud WADA and UK Sport for their support of research into the development of new detection techniques. One improvement that could be made quite easily, however, would be the retention of B samples where a positive result is not found. These are currently destroyed but if they were to be retained pending the development of new

115 Q 193

116 Ev 87

117 Q 185

118 NB. In this case the term ‘adverse analytical finding’ is used as a measure of normal red blood cell concentration. Under the WADA code, a sample presenting with a concentration exceeding normal physiological levels would be deemed positive for use of a banned substance. 2006 List of Prohibited Substances, http://www.wada-a.ma.org/rtecontent/document/2006_LIST.pdf

119 Ev 62

detection methods, athletes using a banned but currently undetectable HET could be identified at a future date, thus increasing the detection rate and adding to the deterrent effect. **We recommend that UK Sport and WADA increase storing of data and samples to allow re-evaluation and analysis of test samples once more sophisticated detection methodologies have been developed.**

76. Whilst on a Committee visit to Australia to investigate some of the issues raised in this inquiry, we learnt that the idea had been mooted that all athletes should compete internationally in the year prior to participation at the Olympics Games in order to be eligible for selection. The argument behind this suggestion is that it would enable determination of athletes' baseline performance, potentially making it easier to detect whether doping has occurred since unusual increases on this performance would raise suspicion. We believe that this policy is worth serious consideration and that adopting it unilaterally in this country would send a clear signal that the UK is 'playing fair' and thus set a good example to the rest of the world, in the important lead-up to the 2012 Olympics. **We urge UK Sport to consider the value of implementing a policy in which all UK athletes would be obliged to compete internationally in the 12 months prior to the 2012 Olympics in order to be eligible for participation in the games, with exemption given where appropriate, for example in cases of serious and proven injury.**

UK anti-doping programme

77. UK Sport considers that, with the support of DCMS, it has implemented "a world class anti-doping programme of prevention, deterrence and detection".¹²⁰ We sought evidence to support this claim. DCMS support for UK Sport takes the form of monitoring its performance on a formal basis and regular contact with UK Sport about a range of issues in the drug-free sport area.¹²¹ However, the resource offered in-house at DCMS for anti-doping is extremely limited. Matthew Reader, representing the Department, told us: "effectively I have one member of staff working on anti-doping in sport".¹²² Although he accepted that it would be "foolish" of him to say that more staff would not be helpful, he felt that if a broad look was taken over what the UK is achieving, and given UK Sport's 'world-class' delivery of the anti-doping policy, he could not "think of anything" in terms of additional work that the DCMS could do with additional staff.¹²³ This may be the case but we are concerned at the lack of resource given to anti-doping within Government. Whilst limited staffing may not be a problem in the current situation, there may be increased requirement for Government involvement in the lead up to, and during the London 2012 Olympics. **We recommend DCMS evaluate whether the resources allocated to anti-doping within its own department are sufficient, and whether they will be so by 2012.**

78. UK Sport boasts that it "is one of the world's leading national anti-doping organisations" and that in comparison with its peers, it is "one of the best".¹²⁴ When asked

120 Ev 62

121 Q 2

122 Q 9

123 Q 10

124 Q 3

on what basis this declaration was made, its director, John Scott, told us that it related to the speed at which UK Sport had been able to respond to the WADA Code in its early days and to receive WADA's endorsement for the UK's approach to the application of the Code. UK Sport had been "one of the first NADOs to receive that".¹²⁵ Pushed further to provide evidence that UK Sport is 'world-class', UK Sport then told us that the Committee should not underestimate the difficulties with being compliant with the WADA Code and that UK Sport was "one of the few" National Anti-Doping Organisations with ISO accreditation for its processes. We also heard, again from UK Sport, that it has "one of the best" accredited processes for training its doping control officers who are responsible for taking test samples from athletes.¹²⁶

79. Dr Budgett of BOA supported the claims made by UK Sport for its own effectiveness, stating that it was not "perfect" but it was "getting better" and was "definitely one of the world's leading anti-doping organisations".¹²⁷ On the other hand, the evidence received from Michele Verroken of Sporting Integrity expressed concern about UK Sport organisation and certain of its activities, for example, the quality and nature of its testing programmes.¹²⁸ There is also the question of how UK Sport collects information and analyses testing data. In its report, *Drugs and role models in sport*, the Culture, Media and Sport Select Committee commented that the information collection and analysis relating to drugs in elite sport was, at that time, "unsatisfactory".¹²⁹ The Government responded that "UK Sport, in recognising the need to improve collection and manipulation of the data to undertake more sophisticated analysis, is developing a new computer system to help achieve this".¹³⁰ However, Ms Verroken told us that "much of the data published is incomplete, indicating only tests collected and analysed". She went on to say that "improvements to the accuracy and adequacy of test data would give greater public assurance that a sufficient testing programmes are being delivered".¹³¹

80. Whilst we accept that UK Sport has made progress in the fight against doping, we found their attitude towards their own performance rather complacent, particularly with regard to apparently unsupported claims that they are "one of the best". **We recommend that, rather than arrogate to itself a world-wide leading position, UK Sport operate a continuous review process to ensure current and future success of the UK anti-doping programme. This review process should include monitoring whether the rules are understood and applied consistently across all sports in the UK.**

125 Q 3

126 Q 4-5

127 Q 268-9

128 Ev 87

129 HC [2003-04] 499-I, para 56

130 *Government Response to the Culture, Media and Sport Select Committee Report on Drugs and Role Models in Sport: Making and Setting an Example*, Session 2003-2004, Cm 6347, p5, <http://www.culture.gov.uk/NR/rdonlyres/69FEBA89-AAACE-4595-AB2B-B5836DC6CC48/0/990835Cm6347GovResponse.pdf>

131 Ev 87

Education

81. In 2005 UK Sport launched the *100% Me* programme, designed to promote the clean sporting success of athletes. UK Sport told us that *100% Me* provides a platform for current British athletes to demonstrate that there is no need to use drugs in sport to be successful; ensures that members of the sporting community can access the information and advice necessary to make well informed choices about anti-doping; and minimises the risk of inadvertent doping (through better education of what is and isn't banned).¹³² UK Sport claims that *100% Me* is "widely recognised, by WADA among others, as a world leader in terms of athlete education".¹³³

82. Despite the efforts of UK Sport, it has been suggested that more could and should be done to educate about potential harm from using HETs. During a seminar held to launch this inquiry, we heard from the Olympic gold medal winner Linford Christie OBE that the UK Government should be doing more to educate about the harm HETs could do. For example, he wondered whether information on this area could be included in sports science degree studies and also thought that school education should feature more information on illegal HETs.¹³⁴ In response to the suggestion that the National Curriculum could have a role to play in educating about HETs, Allison Holloway from UK Sport told us that "there is quite a lot in the current curriculum at the moment that focuses on education around the misuse of drugs" and that within GCSE Physical Education there is a focus on anti-doping.¹³⁵ However, we also heard from Ms Holloway that the "real problem" that lies in schools at the moment is that the "teachers do not necessarily know how to deliver on this subject".¹³⁶ We believe that anti-doping education should be targeted at all athletes from an early age and that UK Sport has an important role to play in delivering this agenda. **We recommend that UK Sport work with schools to develop an effective mechanism for educating about the harm which doping in sport can cause.**

132 Ev 60

133 As above

134 Information from HET Seminar, 21 June 2006.

135 Q 71

136 As above

5 Investigation and prosecution of doping

Conflicts of interest

83. UK Sport not only runs the UK anti-doping programme but is the government agency responsible for maximising British success, for example, in the Olympic Games. This is not the case in all other countries. The Australian Government, for example, has developed a distinct body, the Australian Anti-Doping Authority (ASADA), to take samples for testing against use of illegal HETs and to investigate and prosecute in cases of doping. On our visit to Australia, we found ASADA an impressive organisation in which there was a clear dedication to the fight against doping. It was also clear to us that ASADA has gained much support from stakeholders in Australian sport, for example the Australian Institute of Sport, the New South Wales Institute of Sport and the Australian section of the Court of Arbitration for Sport, who felt that establishment of ASADA had removed a previous conflict of interest faced by sporting bodies in Australia regarding the prosecution of doping cases. The USA has taken a similar approach in the creation of the U.S. Anti-Doping Agency (USADA).

84. Whether UK Sport is the appropriate body to support the dual roles of running the anti-doping programme and promoting UK athletic success has been considered previously. In March 2003 consultants PMP undertook a review of the role of UK Sport's Drug Free Sport Directorate on behalf of UK Sport and DCMS in March 2003. The review concluded that there was no tangible evidence of unethical behaviour at UK Sport and its report recommended that Drug-Free Sport should remain one of the key functions of UK Sport.¹³⁷ The Culture, Media and Sport Committee also considered this issue within its 2004 inquiry into drugs and role models in sport and concluded that they were not convinced that conflicts of interest between the dual roles of UK Sport were anything other than perceptions. However, the CMS report did recommend that UK Sport "take whatever steps deemed necessary to separate and clarify the twin chains of command within the agency to ensure that any such perceptions are laid to rest once and for all".¹³⁸

85. Despite the outcome of these previous reviews, the fact that UK Sport operates through this dual role remains of concern to sport stakeholders. For example, the BOA told us that co-location of the UK's anti-doping programme within the same organisation which has the responsibility for the elite sport funding programme continues to be a "contentious issue".¹³⁹ The BOA argued that "the anti-doping programme should be independent; independent from individual sports, the sports funding agency and political influence" and that "neither the testing, disciplinary and eligibility aspects of the anti-doping programme should be associated with the agency which funds the elite sport system".¹⁴⁰ From another

137 PMP Review of Anti-Doping, http://www.uk sport.gov.uk/images/uploaded/PMP_6b.pdf

138 HC [2003-04] 499-I, para 79

139 Ev 95

140 Ev 95

perspective, we also heard support from Professor Ljungqvist of the IOC and WADA for separating out investigation and prosecution of doping in sport from sporting bodies.¹⁴¹

86. When asked about potential conflict of interest between the two roles of UK Sport, the Minister for Sport, Mr Caborn, was dismissive, telling us that “we do not believe there are any conflicts there” and that “we have a very robust system in place”.¹⁴² However, in written evidence submitted after his session with the Committee, Mr Caborn referred to an independent scrutiny panel (established in September 2005), whose remit will include taking account of the perception of conflict of interest when making recommendations on UK Sport and which will report annually.¹⁴³

87. The issue of dual functionality is further complicated when consideration of the sanction process for doping offences is taken into account. Whilst UK Sport is responsible for testing athletes, it is the responsibility of the governing body for the individual sport to decide whether a doping offence has been committed and what, if any, sanctions are to be imposed. Dr Bruce Hamilton of UK Athletics, one such governing body, told us that it “is difficult to have your educational supporting body being your prosecuting body”¹⁴⁴ and that he would support separating the two functions.¹⁴⁵ Using the example of his own organisation, he said that “our anti-doping department will one day be the person who is ringing you up to make sure everything is okay and that you have filled out all the paper work and everything is good; the next day they will be shutting all the doors up and letting you know that you are under a sanction”.¹⁴⁶ Professor Ljungqvist supported this view, commenting that he could “see the conflict of interest” in the role of sporting bodies in the prosecution of doping offences.¹⁴⁷

88. There is no substantial evidence to support allegations of contamination or unethical behaviour either from UK Sport or sporting bodies in relation to the overlapping functions they perform. However, we are concerned at the continuation of strong perceptions within the sporting community that such conflicts of interest exist. In this context, we were impressed with the success of ASADA and find it unacceptable that suggestions for a UK equivalent should be automatically dismissed without detailed review of the benefits such an organisation could offer. Whilst there may not be a problem with current management of anti-doping in the UK, this does not mean that best practice has been achieved. **We urge UK Sport and DCMS to liaise formally with ASADA and USADA in order to determine best practice in testing, investigation and prosecution of doping offences. We recommend that a separate body be established to undertake these roles in the UK, independent of UK Sport and the national governing bodies of individual sports.**

141 Q 273–282

142 Q 316

143 Ev 105

144 Q 191

145 Q 192

146 Q 191

147 Q 273

Criminalisation of doping

89. Under IOC rules, whilst athletes may face disqualification for doping offences, they are not subject to legal penalties and within the UK, although some of the drugs taken to enhance human performance are controlled and fall under the Misuse of Drugs Act 1971, many do not. Whilst we understand, as explained by John Scott from UK Sport, that the Government has taken the position that doping “is an issue that should be owned by sport”,¹⁴⁸ we heard from Michele Verroken of the sports business consultancy ‘Sporting Integrity’ that “no mechanism presently exists to follow up findings in the sports drug testing programme with investigations that may lead to prosecutions” under the Misuse of Drugs Act.¹⁴⁹ Going further still, some other countries criminalise the use of performance-enhancing drugs by sportsmen and sportswomen, for example France and Italy where athletes can face criminal sanctions for doping violations.¹⁵⁰ Ms Verroken suggested that “strengthening legislation to allow seizures of steroids and other performance enhancing drugs to be made, as undertaken by the French police around the Tour de France, would also demonstrate the UK’s commitment to control these substances”.¹⁵¹

90. We received a strong recommendation from Professor Arne Ljungqvist, representing WADA and the IOC, that the UK should look at its laws in this area. He explained that in his own country, Sweden, there is a law “specifically directed to the possession, distribution and even use/consumption of doping substances”¹⁵² and that it had been “very helpful” to Swedish sports organisations to have this law in place because it makes it possible for the police authorities to make searches on suspicion. He believed that having this law in place acted as a “very efficient” deterrent of doping,¹⁵³ and that it could be good for the image of sport, citing an instance where suspicions of doping had been raised but had been satisfactorily dispelled by police investigation.¹⁵⁴ Appearing at the same evidence session, Dr Richard Budgett of the BOA offered full support for a similar law in the UK. He felt that this would “send a very strong message”.¹⁵⁵

91. When asked whether the Government is considering criminalising doping in sport prior to the 2012 Olympics, the Minister for Sport was very clear that “we are not and we will not go down that route”.¹⁵⁶ The Minister pointed out that “WADA is there to root out cheats in sport” and it is the Government’s aim to keep “the policing and the development of WADA very much within sport”.¹⁵⁷ Mr Caborn also told us that he felt it important that sport should “deal with its own misdemeanours” and that to criminalise doping in sport

148 Q 89

149 Ev 86

150 Legal Regulation Of Doping In Sport: The Case For The Prosecution, Gregory Ioannidis, LLB, LLM, Barrister, Lecturer in Law & Research Associate in Sport Law University of Buckingham (UK), page 5, <http://buckingham.ac.uk/publicity/academics/articles/ioannidis-Irodis.pdf>

151 Ev 86

152 Q 258

153 As above

154 Q 259

155 Q 260

156 Q 323

157 Q 322

would be “disproportionate” to what the Government is trying to achieve.¹⁵⁸ We note the Minister’s immediate dismissal of the suggestion that doping in sport should be criminalised, since we heard opinions that legislation in this area could help in the fight against doping. **We urge the Government to initiate a review of the experience of countries which have put in place laws criminalising doping in sport.**

Sanctions for doping offences

92. Sanctions for doping offences must be in line with the WADA code and may depend on several factors such as the sport’s governing body’s regulations; the class of substance or method found to be used; the number of times the competitor has had a positive test result; and the explanation given by a competitor for the presence of a prohibited substance in their test sample. Depending on the nature of the offence, the governing body may then impose sanctions ranging from a warning to a ban of three months, two years (the standard ban), four years, or even life. The length of ban given is currently being looked at under the review of the WADA Code with the suggestion that the ban for first-time doping offences should be increased to 4 years.¹⁵⁹ Dr Budgett supported an increase in the ban, particularly for Olympic sports. He told us that that “many of us in sport feel it should be four years” as it is “ridiculous if someone can come back and compete in the very next games having been caught the first time”.¹⁶⁰ **We urge UK Sport to recommend to WADA that a minimum four year ban is applied in all incidences of proven doping.**

93. Some governing bodies may also impose financial penalties upon athletes found guilty of doping. In addition, UK Sport told us that the UK is the only country internationally that will not allow continuation of funding for an athlete caught with a serious doping offence and that UK Sport does not “believe it is acceptable at all for anyone who has chosen to take drugs to receive public funding”.¹⁶¹ Another approach is taken in Australia where, under Australian regulation, athletes there are prevented from competing whilst under investigation for doping offences, an action which further prevents any financial or career gain from cheating. Whilst we welcome moves to prevent athletes from benefiting from future financial gains whilst under sanction for doping offences, we do not believe that this goes far enough. We were therefore interested to hear suggestions from Michele Verroken that financial rewards already received should be repaid when a doping offence occurs.¹⁶² Bruce Hamilton agreed with this view, telling us that he thought it would be “more than reasonable” for an athlete to pay such money back.¹⁶³ **We urge UK Sport to consider a mechanism by which athletes would be liable for repayment of all financial gains, perhaps from the point of the last ‘clean’ test they had given.**

94. We are also keen that athletes should be encouraged to disclose sources of doping material and not be allowed back on the competitive circuit until they have done so. We

158 Q 322

159 Notes from WADA Executive Committee meeting, September 2006. Available from the WADA website at: http://www.wada-ama.org/rtecontent/document/Info_Code_Review_ExCo_Sept2006.pdf

160 Q 217

161 Q 12

162 Ev 87

163 Q 196

recognise that there are difficulties in this. Professor Ljungqvist pointed out that “The problem we face over and over again with athletes is that they simply refuse to disclose”.¹⁶⁴ Dr Budgett of the BOA added that there “may be the odd athlete who actually is innocent but has the substance in his urine” and in such circumstances, disclosure would be impossible.¹⁶⁵ However, he concluded that “on balance, it would be a sensible proposal that, before they are allowed back in the sport, [athletes] must tell the doping authorities where they obtained the substances.”¹⁶⁶ **We recommend that UK Sport and sporting bodies consider making it a requirement that athletes should disclose sources of doping before they are allowed to return to competitive sport.**

Resolving disagreement

95. In the UK investigation and prosecution of doping is undertaken by the governing body for a particular sport. However, sometimes disputes may occur between the prosecuting body and an athlete claiming innocence, and in these cases there may be an appeal to the Court of Arbitration for Sport (CAS). Last year, for example, Rugby Union player Wendell Sailor appealed to the CAS following a two year ban for taking cocaine.¹⁶⁷ During our visit to Australia, we met representatives from CAS who told us that athletes, clubs, sports federations, organisers of sports events or even sponsors may refer a case to CAS if they believe a decision, perhaps to ban an athlete, has been made inappropriately.

96. CAS has interlocking agreements with sporting bodies which detail its jurisdiction in disagreements relating to doping and the CAS representatives were keen to impress upon us the importance of ensuring that CAS has appropriate jurisdiction within the UK and EU prior to the London 2012 Olympic Games. We are perturbed that CAS should perceive this to be a potential problem. **We urge the Government to clarify the position regarding the jurisdiction of the Court of Arbitration for Sport for arbitration and mediation of disputes in doping cases which may occur prior to and during the London 2012 Olympics and to take any steps necessary to ensure that appropriate jurisdiction is established.**

164 Q 223

165 Q 224

166 As above

167 “Sailor appeals against drugs ban”, 25 August 2006, *BBS Sport News*, http://news.bbc.co.uk/sport1/low/rugby_union/5285538.stm

6 Keeping ahead of the game

Horizon scanning

97. One of the purposes of this inquiry was to establish which illegal HETs might be in use by the 2012 Olympic Games. Although many prohibited HETs may be found listed and advertised on websites, we wished to explore what is being done to identify additional potential substances and methods. Development of prohibited HETs generally arises from disciplines and areas not necessarily associated with the sporting community, and it is clear that knowledge of what is going on elsewhere in science would be beneficial in understanding potential areas for abuse in sport. For example, the majority of developments in this area appear to follow on from the application of medical research and pharmaceuticals in treatment of medical conditions. Gene doping, for example, stems from the advent of gene therapy, a massive advance in medicine which will hopefully, in the future, be able to save and change the lives of many individuals who currently suffer from irreversible and incurable diseases. Better understanding of medical advances in gene therapy may help identify possibilities for gene doping. Another source of information regarding potential areas of doping is through learning about the types of substances being brought into the UK. Whilst on a Committee visit to Australia we were interested to hear about the relationship the Australian Anti-Doping Agency (ASADA) has built up with the Australian Customs Service. Information is shared between the bodies, for example on substances brought into the country, and this is then used in the identification of potential illegal HETs in sport.

98. As the body directly responsible for anti-doping in the UK, we expected UK Sport to have a good knowledge of the HETs which might pose a threat and to be involved in the development of methods to test for them. However, this was not the case. In response to our call for evidence to this inquiry, UK Sport was obliged to consult with a number of leading experts to identify this information.¹⁶⁸ Whilst UK Sport could be congratulated for the initiative shown in implementing such a consultation process, we find it a matter of concern that the UK's national anti-doping organisation does not appear to scan the horizon on a regular basis and have such information readily at hand in the fight against doping. There is a need for a UK horizon-scanning capacity for developments in doping to be enhanced. This should include monitoring of websites whereby HETs can be easily purchased and liaison with HM Revenue and Customs to establish what substances are currently being brought into the UK which may be used to illegally enhance performance, either now or in the future. There is also a need for better scanning of current developments in other scientific disciplines (for example, genetics) to determine potential future illegal HETs. **We recommend that the Government establish effective means of monitoring and evaluating potential areas of threat from doping prior to the London 2012 Olympics. We recommend that this responsibility be given to the new organisation in charge of testing, investigation and prosecution of doping offences, distinct from UK Sport, as recommended earlier in this Report.**

Research into illegal HETs

Identification

99. During this inquiry, witnesses have identified several HETs which might pose a threat to the London 2012 Olympics, and we found persuasive Dr Hamilton of UK Athletics who told us of his personal belief that “every component of the WADA code will be challenged over the next ten to fifteen years”.¹⁶⁹ Drugs are an example of such HETs since, as we heard from Professor McGrath of the University of Glasgow, “pharmacology will always develop; drugs are continuously developing, they have been for the last fifty years and that will carry on”.¹⁷⁰ Pharmaceuticals of interest to the sporting world may include stimulants which act on the central nervous or cardiovascular systems, perhaps in raising aggression, confidence or alertness. A well known example of a ‘designer drug’ is Tetrahydrogestronone (THG), an anabolic steroid modified so as to make it undetectable under normal drug testing. THG was discovered following the 2003 US-based Bay Area Laboratory Co-operative (BALCO) investigation¹⁷¹ which resulted in the British 100 metre sprinter Dwain Chambers, amongst others, receiving a two-year ban.¹⁷²

100. Hormones may also pose a threat to fair play during the London 2012 Olympics. Examples include Human Growth Hormone which can aid recovery from injury, promote strength and burn fat, or the glycoprotein hormone erythropoietin (EPO) which regulates red blood cell production and hence the oxygen-carrying capacity of the circulation,¹⁷³ as described below. Dr Hamilton from UK Athletics told us that, for endurance sport at least, EPO will “continue to be a problem through 2012”.¹⁷⁴

101. Blood doping is thought by some, for example Dr Richard Budgett of the BOA, to be a serious concern for anti-doping by 2012.¹⁷⁵ The term ‘blood doping’ refers to the practice of boosting the number of red blood cells (RBCs) in the circulation in order to enhance performance in endurance events by increasing the RBC content and therefore the oxygen-carrying capacity of the athlete’s circulatory system, for example to the muscles. Blood doping is commonly undertaken through the intravenous infusion of blood. The infused blood may have been previously removed (from the same athlete) and stored or it may come from another source.¹⁷⁶ As the detection and understanding of EPO (which has a similar effect, see above) has become more advanced, athletes have reverted back to blood doping, presenting real problems for detection programmes since as explained by UK Sport, “an athlete growing and using their own blood [is] impossible to detect if the levels are below those reported for an adverse analytical finding”.¹⁷⁷

169 Q 185

170 Q 125

171 “This Is Very Clever Chemistry”, *Washington Post*, 4 December 2004, <http://www.washingtonpost.com/ac2/wp-dyn/A33774-2004Dec3?language=printer>

172 Ev 58

173 Ev 59

174 Q 165

175 Q 230

176 Ev 59

177 As above

102. Gene doping, or the modulation of an athlete's genetic material or its expression to improve performance, is also thought of as a potential threat to the London 2012 Olympics. WADA is taking the issue very seriously: it has convened conferences to discuss gene doping with top experts and is supporting research into its detection.¹⁷⁸ Genes of interest to the sporting world could include those involved in increasing production of naturally occurring substances such as Insulin-like Growth Factor-1 (IGF-1) which stimulates muscle growth and speeds healing and repair. This form of doping would also be potentially useful to athletes looking to use alternative effects on genes such as causing them turn on or off as required to enhance performance. Whilst we have also heard that genetic manipulation of athletes is unlikely to be attempted before 2012, (for example, Dr Wackerhage of the University of Aberdeen told us that such use is unlikely because "it is technically difficult and the type of desired and side effects are unclear"¹⁷⁹), there have already been reports of use of gene therapy in this fashion. For example, Repoxygen is the tradename for a type of gene therapy which induces controlled release of EPO in response to low oxygen concentration in mice. Developed to treat anaemia, Repoxygen is still in preclinical development and has not been extensively tested in humans. However, despite being prohibited both in and out of competition under the WADA Code 2006 Prohibited List, interest in Repoxygen is currently suspected.¹⁸⁰

103. We were interested to establish what is being done to identify new performance enhancing drugs. However, John Scott told us that UK Sport were not "directly doing any work" and their research "priority" has been on social research,¹⁸¹ used to get a better understanding of the 'mind-set' of athletes and hence when they might use prohibited substances, rather than what may be available. Mr Matthew Reader from DCMS put the onus on WADA, explaining that it has a "fairly considerable" research budget and that it commissions research around the world. He commented that WADA is "uniquely placed to co-ordinate" since this is one of many issues which has application across the world.¹⁸² We find the attitude of DCMS and UK Sport somewhat complacent, and are concerned that UK Sport does not conduct research into current or future, potentially prohibited, HETs. We also consider that there is a need for increased research into the detection of current and potential illegal substances, including gene doping, and that such research must take place well in advance of the London 2012 Olympics to enable us to be ahead of, or at least on a par with, the cheats. **We recommend that DCMS and UK Sport develop a funding stream to support research into potentially prohibited substances and methods for their detection. We recommend that funds be made available for this work well in advance of the London 2012 Olympics.**

Alternative methods for catching the cheats

104. As discussed in Chapter 4, WADA supports scientific research into the detection of doping in its various forms and it is clear that some mechanisms for cheating (for example,

178 WADA publication, 'Play True', Issue 1, 2005, pages 3-6.

179 Ev 72

180 "Apocalypse now: fears of gene doping are realised", *The Times*, 2 February 2006, <http://www.timesonline.co.uk/article/0,,4-2020875,00.html>

181 Q 31

182 As above

with testosterone) are detectable through the WADA-accredited laboratory testing system.¹⁸³ However, as we have seen above, some HETs remain very difficult or impossible to detect. Since not all methods for doping are currently detectable, the development of the doping, or athlete's, 'passport' has been suggested. The idea behind this suggestion is that athletes would be requested to give blood and urine samples at set points at the start of and during their career in sport. These samples would be tested and analysed, for example for natural variation in hormone levels (such as natural levels of EPO) and markers of normal blood physiology (such as haemoglobin, the part of red blood cells responsible for carrying oxygen). The passport would then be used to measure variation in these levels and thus enable easier tracking of substance abuse. During the course of this inquiry, we have heard strong support for the development of a doping passport. Professor McGrath referred to what he considers the "big case" for an athlete's passport. He also felt that monitoring athletes in this way might enable detection later on when a particular method of doping is not yet detectable.¹⁸⁴ Dr Budgett of the BOA argued that not only is it a "good idea" but that resources put into the development of a doping passport would be effective and that the UK should show a lead because "it would be one extra way of making sure our athletes truly are clean".¹⁸⁵ On the other hand, while John Scott from UK Sport also felt that it would be useful to have a doping passport,¹⁸⁶ he believed that the scheme "requires international partnership" since there is little point in it being applied to just one group of athletes.¹⁸⁷

105. We believe that a 'passport' used to record an athlete's physiological profile over set time points during their career would be of use in the fight against doping. Not only might such a scheme offer increased potential for detection of doping, but it could act as a deterrent to those athletes contemplating doing so. However, for such a passport to be effective, it would be necessary for anti-doping authorities to have a clear, continually developing understanding of normal physiology (for example, of the blood) and the effects of HETs upon it. There may therefore be a need for increased research into normal physiological characteristics to enable detection of when doping has occurred. **We recommend that the UK pilot the development of a doping passport and that government funds be made available for development of this scheme. To support this, we recommend that funding be given for research into normal physiology and changes in physiological characteristics after doping with illegal substances.**

183 Testosterone, epitestosterone and the doping tests, Cycling News, 31 July 2006, http://www.cyclingnews.com/news.php?id=features/2006/testosterone_testing

184 Q 193

185 Q 304

186 Q 73-79

187 Q 83

7 Preparing for the 2012 Olympics

Scaling up testing

106. A recently released IOC statement announced that, as part of its zero tolerance approach to fighting doping, the number of tests conducted for the Beijing Olympic Games will be significantly increased. Final numbers are to be confirmed but are expected to be around 4,500, a 25 per cent increase on Athens 2004.¹⁸⁸ It might therefore be reasonable to assume the possibility of further increases by 2012 and the London Games. Indeed, according to Professor Ljungqvist, the IOC is steadily increasing the number of tests for the Olympic Games from each one to the next and he was certain that “they will be increased again”.¹⁸⁹ Dr Budgett of the BOA suggested that 5,000 tests would be “a nice rounding of the figure”, which “would be half of the athletes at the games”.¹⁹⁰

107. If testing is to increase during the 2012 Olympics, then it is clear that the UK must have a strategy in place underpinning the requirements this may impose. During our visit to Australia, the Committee learnt that the Australian Government awarded significant funding to enable the Australian Sports Drug Testing Laboratory (ASDTL) to expand in preparation for the testing of all samples taken during the Sydney 2000 Olympics. The ASDTL called on equipment and personnel (the ASDTL expanded from 14 to 90 members of staff during the games) from other sections of the National Measurements Institute where it is based, and was able to ensure that all involved in the testing process were fully trained.

108. In the light of this experience, we were concerned at the apparent complacency shown by UK Sport and the Government in respect of this issue. When asked how UK testing laboratories would scale up for testing at the 2012 games, John Scott from UK Sport acknowledged that there may be a huge increase in the number of tests but he did not think capacity would be a problem, telling us that “it is very easy to bring in the sophisticated testing machinery” and that “there are a number of individuals who are qualified to use that machine internationally who would also be brought in”.¹⁹¹ It is a standard procedure during the Olympics that staff from WADA-accredited laboratories from across the world congregate in the host country to assist in the testing process. This is reassuring but we were less satisfied with Mr Scott’s admission that this “is part of the pre-Games planning that we are only now beginning to get our heads around”.¹⁹² The question of funding for the necessary increase in facilities also seems unresolved. When pressed on whether the UK Government would be making funds available, the Minister for Sport, Richard Caborn MP told us that this was “not a UK responsibility or indeed a Government responsibility” but one within the domain of the London Organising Committee of the Olympic Games and

188 27 October 2006, *The Herald*

189 Q 263

190 Q 302

191 Q 47

192 Q 48

Paralympic Games (LOCOG). Mr Caborn also told us that funding for the London 2012 testing programme itself would have to come out of the LOCOG budget.¹⁹³

109. Whilst 2012 may seem some way off, we believe that it is essential that the UK takes a proactive stance on developing the facilities required for a successful testing programme. We also believe that an accurate view of funding requirements must be obtained and that adequate funding for the running of a successful testing programme must be made available. **We recommend that UK Sport and DCMS urgently consult on requirements for scale-up of testing facilities, personnel and protocol during the London 2012 Olympics and that Government funding for meeting such requirements be made available. This will clearly require close working with LOCOG and to facilitate this, we urge the Government to provide a clear statement on the responsibilities and remit of LOCOG and UK Sport regarding the London 2012 testing programme.**

Liaison

110. We were also interested to determine what mechanisms the UK has in place to learn from previous large-scale events such as the Beijing 2008 Olympic Games. John Scott from UK Sport told us that “WADA undertakes an independent observer programme for all the games”.¹⁹⁴ He added that UK Sport will be studying WADA reports, for example on Turin (host of the 2006 Winter Olympics) and Melbourne (host of the 2006 Commonwealth Games), and that it will be working with LOCOG in terms of “delivery of the anti-doping programme”.¹⁹⁵ There are two options in terms of how this Olympic anti-doping programme will be delivered (either by UK Sport directly, or with UK Sport as advisers for the delivery), and Mr Scott explained that the selected option would “gear up accordingly”.¹⁹⁶ Anti-doping will come within the remit of a medical director for the London Games who is yet to be appointed, although Mr Scott indicated that UK Sport expects to “be there as well observing anti-doping at the [Beijing] Games”.¹⁹⁷

111. Once again, we find the attitude of UK Sport unacceptably complacent. Whilst it might not be expected that the 2012 Olympic anti-doping policy should already be in place, we are concerned that little is being done to liaise with and learn from previous hosts of the Olympics and other major events. **We recommend that immediate mechanisms be put in place by UK Sport to learn how other countries have managed doping during large international sporting events. We recommend that the Government liaise actively with WADA, IOC and other governments to ensure that the UK is not only well prepared for anti-doping during the 2012 Games, but that there is a clear understanding of the protocols the UK must have in place.** This process of learning lessons from the experience of others will be vital to the success of the 2012 Games but we are also concerned that more needs to be done, and more quickly, to ensure that the UK can deliver the most efficient anti-doping and testing programme possible. **We recommend that the Government**

193 Q 325–327

194 Q 59

195 As above

196 As above

197 Q 59–61

develop an action plan in conjunction with UK Sport to ensure that the UK is prepared for anti-doping well in advance of the 2012 Games.

112. During our visit to Australia, we learned about the importance of gaining knowledge of prohibited substances which may be brought into the country, either legally (if not banned under UK legislation) or illegally, prior to the London 2012 Olympic Games. Representatives of the Sydney branch of the Court of Arbitration for Sport impressed upon us how essential it is that a robust relationship is built between anti-doping authorities and HM Revenue and Customs prior to the lead-up to the 2012 Olympics. We agree that this is an area for serious consideration. **We recommend that mechanisms be put in place for informed liaison between UK Sport or any replacement anti-doping authority and HM Revenue and Customs to identify and monitor prohibited substances brought into the UK which may be intended for use during the 2012 Olympic Games.**

8 Being the best legally

Use of legal HETs

113. Within the context of this inquiry, we were keen to evaluate some of the legal mechanisms by which UK athletes can be supported in their pursuit of sporting success. We have learnt of a number of technologies available which are believed, or have been proven, to have performance-enhancing capacity, for example:

- a) Biomechanics, used to enhance performance by improving understanding of the mechanics of movement. We were interested to see use of biomechanics for the improvement of bowling technique in cricket at the Australian Institute of Sport and for aiding in the development of twists and jumps in gymnastics and trampolining at Loughborough University.
- b) Immunology. The physical and life stresses associated with high level competition can result in immune suppression leading to increased susceptibility to minor infections and illnesses. Understanding of immunology and the specific requirements of athletes is therefore beneficial, and we were interested to see some of the research ongoing at Loughborough University into the development of nutritional and other strategies to combat the physical requirements of an athlete's life.
- c) Nutrition and hydration. Good nutrition and hydration practices can be used to boost performance levels and also aid in the recovery of muscle function after intensive training or injury.¹⁹⁸
- d) Physiology. Better understanding of general physiology and the effects of intensive training upon it may be beneficial in learning how to enhance performance through legal mechanisms.¹⁹⁹

114. Dr Anna Casey, representing QinetiQ, told us that one must accept that athletes will take supplements and that “some supplements are legal, they are worth taking and they will aid training, they will aid recovery”.²⁰⁰ We also note that the IOC Medical Commission accepts use of some supplements. Professor Ljungqvist told us that “as long as the mechanisms that they are using for performance enhancing are accepted and not banned, it is automatically okay”.²⁰¹ However, we were also told that it is important to proceed with caution before recommending use of legal HETs. Dr Budgett from the BOA told us that he is “cautious and sceptical” about HETs. Dr Budgett explained that “there are an awful lot of methods and substances out there that are put forward with pseudo-scientific justification” and that he is sceptical with regard to whether or not such HETs have beneficial effect.²⁰² He gave his opinion that required supplements will normally be for a medical reason and

198 Ev 70–71

199 As above

200 Q 175

201 Q 306

202 Q 306

under direction from a professional, for example, nutritionist or doctor,²⁰³ a view shared by Professor Ljungqvist who told us that athletes should not take anything unless they can prove that they need it.²⁰⁴

115. We believe that legal HETs may be of real value to performance enhancement. However, we accept that caution is required in the use of such substances and methods and believe that athletes must have access to appropriate medial advice and support to ensure that they are using legal HETs correctly. **We should like to see a culture of ‘openness’ developed and maintained in which athletes can easily access help and advice in situations where use of legal HETs may be appropriate. UK Sport should take the lead in fostering this approach through its links with the national sporting bodies.**

Development of legal HETs

116. If we are to help our athletes improve their performance through use of legal HETs, then it is important that there is sufficient (and ongoing) research into such technologies. During this inquiry, it has become apparent that there is limited funding for research into legal mechanisms for enhancing performance. Professor Arne Ljungqvist from WADA told us that his organisation does “not feel that is our responsibility” and that the \$5 million research funding available within WADA goes directly into developing methods for the detection of doping substances.²⁰⁵ Neither DCMS or UK Sport fund research into HETs. We were told us in oral evidence that “UK Sport are not directly doing any work ourselves. We have a very small research budget and our research priority has been on social research”.²⁰⁶ In supplementary evidence, UK Sport elaborated that it “does not have responsibility for funding research but instead hopes to enhance its role in influencing the research agenda more widely in this area”.²⁰⁷

117. It is also clear that the skills base underpinning such research, and the research itself, must be of extremely high quality. However, in his written submission, Professor McGrath told us that “much research in sports-related topics is not cutting edge and does not have sufficient scientific depth”²⁰⁸ and that “the skills base (physiology in health and disease, genetics and biochemistry) is there but it is not being directed towards these ends [sports science]”.²⁰⁹ We were also told that the practical skills necessary to build up the sports science research base are not being taught. Henning Wackerhage from the University of Aberdeen argued that “it is unfortunate that the practical skills (i.e. biochemical, molecular biology and genetic techniques) necessary for mechanistic exercise research are not often taught as part of sports and exercise science degrees”.²¹⁰

203 Q 308

204 As above

205 Q 311

206 Q 31

207 Ev 107

208 Ev 96

209 Ev 97

210 Ev 73

118. Sport is an important industry in the UK with a large budget. It is therefore a matter of concern that research into sport-related topics is not considered ‘cutting-edge’ since the increased knowledge and understanding research can produce may be instrumental in maximising our athletes’ performance and hence increasing return on UK investment in sport. We are also concerned that the relevant skills required for such research should be taught. **We recommend that the Government review the quality of sports science research in the UK and implement mechanisms for enhancing training and support where required.**

Academia

119. Whilst there are clear benefits from the use of legal mechanisms for performance enhancement, academic research in this area is limited. Dr Henning Wackerhage of the University of Aberdeen told us that “sports and exercise research is probably less well funded in the UK than in the US or Scandinavia”.²¹¹ During a seminar held to launch this inquiry, we also heard from Professor Maughan of Loughborough University that most of the advances in HET are based in the context of medical research and do not come from sports science. We later heard from Professor McGrath of the University of Glasgow that “there are not the drivers to do the research”.²¹²

120. Reasons cited for such limited academic research into HETs include the lack of incentives for doing so. For example, during the Committee’s visit to Loughborough University, we were told of the reduced incentive for undertaking work to be published specifically in sports science journals. Journal impact factors are a measure of citations to science and social science journals and are frequently used to indicate the importance of a journal to its field. In real terms, the absolute value of an impact factor is meaningless and comparison of impact factors between different fields is invalid. However, such comparisons have been widely used for the evaluation of not merely journals, but of scientists and of university departments. Indeed, during its 2004 report into *Scientific publications: Free for all?*, the previous Science and Technology Select Committee reported the perception that the Research Assessment Exercise “rewards publication in journals with high impact factors”.²¹³ Since impact factors of sports science specific journals are significantly lower than those for other disciplines for example, medical research, there is little incentive for researchers to direct their work in this fashion. For example, whilst the *New England Journal of Medicine* has a current impact factor of 44, the *American Journal of Sports Medicine* has an impact factor of 2.4, the *British Journal of Sports Medicine* an impact factor of 1.85 and *Sports Medicine* an impact factor of 3.33.²¹⁴

121. There is also limited funding available from the public research funding sector into sports science generally and the development of legal HETs specifically. According to Professor McGrath “the remits of the research councils do not include sport” and the “people who do this kind of work tend to drift off in their career into cardiovascular

211 Ev 73

212 Q 118

213 Science and Technology Committee, Tenth Report of Session 2003-04, *Scientific Publications: Free for all?*, HC 399-I, para 210

214 Web of Science - Journal Citation Reports, <http://portal.isiknowledge.com/portal.cgi?DestApp=JCR&Func=Frame>

research or diabetes because they can apply the biological expertise there and get funding”.²¹⁵ It could be argued that this gap in funding for research of this type should be filled by those to whom it would be of immediate benefit, for example sporting bodies and organisations. However, Bruce Hamilton from UK Athletics told us that “it is very rare to commission research, primarily because the sporting bodies do not have funds to do so”.²¹⁶ We are concerned that, despite the Government’s boast that it is “keen to ensure the highest possible standards for sport in this country, and to re-establish the UK as a powerhouse in the sporting world”,²¹⁷ we see little investment in the research which may enable it to do so. We also find it astonishing that sports science as a general discipline receives such little support, particularly in light of clear connections to research within the medical and biological sectors and also as a social science, with relevance to the ethical issues involved with doping in sport. **We recommend that the Research Councils include research into sports science within their funding remits. Furthermore, we urge the coordinating body, Research Councils UK to examine the ways in which sports science could be more effectively served across the Research Councils.**

122. We were interested to see the different approach taken by the Australian Government to research into legal mechanisms for enhancing performance. In contrast to the UK Sport and National Lottery-funded English Institute of Sport, the Australian Institute of Sport (AIS) has an active research funding programme, supported by the Australian Government, covering this area. It runs a research grants programme in which academics can apply for research funds in partnership with a sporting body/institution.²¹⁸ We would like to see research into legal HETs given a higher priority in the UK. **We recommend that the Government develop a specific funding stream for research into legal mechanisms for enhancing human performance in sport.**

Industry

123. The majority of research into HETs, in the UK at least, is conducted by sectors other than that of academia. Industry is a major funder of HET research. Michelle Verroken from Sporting Integrity told us that “in the medical and pharmaceutical industry similar research [to that required to enhance sporting performance] is being undertaken which could be applied”.²¹⁹ Indeed, there are a number of industrial bodies with an interest in sports science; for example, those within the UK sports nutrition market interested in the development of sports foods and beverages which can be a substitute for traditional foods and beverages or sports supplements in pill or powder form, intended to be taken in addition to regular food and drink. Such companies include Lucozade (owned by GlaxoSmithKline) which produces a number of supplements, for example isotonic drinks to aid in rehydration, and GNC which produces a diverse range of supplements from vitamins to protein bars, including those designed to maximise muscle growth.

215 Q 118

216 Q 142

217 Better Sport, http://www.culture.gov.uk/what_we_do/Sport/best_possible_sport.htm

218 <http://www.ais.org.au/research/index.asp>

219 Ev 88

124. John Brewer of GlaxoSmithKline told us the main drivers behind such research were “to look at new claims and to develop new products”.²²⁰ He explained that his company looked to fund research that will enable them to produce products which are different from the range it already has and which will give it “cutting edge products and cutting edge claims that we can make around those products”.²²¹ However, GSK recognised that there is also a need to fund blue sky research “which may not have an immediate effect for us but which may enable us to enhance sports science”.²²² Industry also funds research within the academic sports science sector. Mr Brewer told us that GSK currently has a research budget for sports science which is approximately half a million pounds a year and that this is used to support research in five academic universities, “four in this country and one in Australia”.²²³ However, whilst such funding is appreciated by academics, Professor McGrath pointed out that £500, 000 is typically the amount researchers might expect for a single project and that “there just are not the resources going into this area”.²²⁴ He estimated the need for a substantial amount of money in this area: “£20 million or something like that”.²²⁵

Military

125. The military sector also has an interest in supporting research into HETs and is working to develop products of use to those in the field, for example strategies to maintain hydration levels. In 2005, the Ministry of Defence awarded a £1.5 million three year contract to GSK to produce a Lucozade Sport Body Fuel drink for soldiers’ 24 hour Operational Ration Packs.²²⁶ Anna Casey, a research leader at QinetiQ, told us that, in most cases, “military feeding initiatives are based on developments in sports science”,²²⁷ and that “the Ministry of Defence is putting significant resources into preparing people for operations, preparing people for optimal performance and different environmental conditions using different technologies and different supplements and different ways of optimising performance”.²²⁸ The military sector is clearly undertaking research which would be of interest to those in the sports science field and stronger links between the two sectors might be fruitful.

Knowledge transfer

126. In addition to the limited research undertaken, particularly by the academic sector into legal HETs for sport, there are also limitations on the exploitation of the research

220 Q 119

221 As above

222 Q 119

223 As above

224 Q 131

225 Q 136

226 Liquid Fuel for Armed Forces Ration Pack, 23 September 2005, QinetiQ Press release, http://cache.zoominfo.com/cachedpage/?archive_id=0&page_id=1440978317&page_url=%2f%2fwww.qinetiq.co.uk%2fhome%2fnewsroom%2fnews_releases_homepage%2f2005%2f3rd_quarter%2fliiquid_fuel.html&page_last_updated=2%2f16%2f2006+10%3a11%3a32+AM&firstName=Anna&lastName=Casey

227 Q 116

228 Q 140

which does take place within the different sectors to its maximum potential. Dr Anna Casey described how the pull-through of military research needs to extend to outside the military. She told us that there would be a real willingness from the military sector for this to happen.²²⁹ However, she also observed that interaction between the different sectors “is not as good as it should be”.²³⁰ John Brewer from GSK told us that “whilst we know the key individuals that we are working with, there may be other areas of expertise out there which we are not aware of which could give us the answers to some of the questions which we are raising”.²³¹ We also heard from Dr Bruce Hamilton of UK Athletics that “there needs to be a tighter link between the clinical practice (and I include in that the sports physicians and the coaching arena) and university research”.²³²

127. Although there are a number of conferences for knowledge exchange in sports science (for example, the European College of Sports science annual meeting), one academic in the field, Dr Andy Miah of the University of Paisley, wrote that there is a problem with respect to communication of developments in sports science, which he regarded as “One of the major weaknesses in the world of sport”.²³³ The University of Loughborough supports this view, specifically in respect of the need for better dissemination of information, telling us that “key to the success of HETs in sport is education of athletes, coaches and those who support them. Dissemination of available information has lagged far behind scientific progress: the use of new technologies to improve communication with athletes must be an essential part of any strategy”.²³⁴

128. UK Sport is making efforts to address the issue of communication between the sectors and we understand from Dr Casey that the organisation recently set up a short term working group bringing together academics and industry to produce a document for UK athletes with a view to 2012, on ergogenic aids and supplements and performance enhancement.²³⁵ We also understand the UK Sport, together with the Engineering and Physical Sciences Research Council, has recently held three tailored ‘Achieving Gold’ workshops aimed at bringing together researchers from a variety of backgrounds to look at the application of science, engineering and technology to Olympic and Paralympic performance sport. The first of these workshops ‘Improving information flow’ looks at ways in which coaches can be presented with more ‘real time’ information about how their athletes are performing; the second is designed to look at ‘New ways to test new kit and equipment’; and the third is on ‘Improving our understanding of sails’. The workshops are backed by a potential £1.5m budget to support delivery and outcomes.

129. We welcome initial efforts by UK Sport to enhance the application of science to sport. However, we feel that there is still a long way to go. There is a need for greater awareness of relevant research being undertaken by different academic disciplines (for example, pharmacology, genetics and sports science) and sectors (academia, industry, military,

229 Q 154

230 Q 158

231 Q 157

232 Q 143

233 Ev 65

234 Ev 71

235 Q 158

sporting organisations), with particular need for increased linkage between the industrial and academic sectors. In addition, we are concerned that links between the sports sector and the Ministry of Defence are weak and that significant effort should be made toward application of relevant knowledge within this sector to the benefit of sport. There is also a need for greater translation/application of the research generated by different disciplines and sectors to sport. **We urge UK Sport to develop formal mechanisms for the sharing of knowledge and information between the different sectors and to look at mechanisms for maximising the application of knowledge already in existence to the benefit of sport in the UK. Furthermore, we recommend that the UK Research Councils identify mechanisms for enhancing the sharing of information relevant to sports science between the different academic disciplines.**

9 Conclusion

130. For the size of the industry and the numbers directly engaged in it at a professional level within the UK, sport has a very high public profile and its figureheads are enormously influential, especially amongst young people. Sport matters to people, and both successes and scandals resonate within the community beyond the immediate sporting world. That is why the issue of doping in sport is so important and why it has the potential to turn an occasion for national pride – the 2012 Olympics in London – into an embarrassment and national disgrace. Doping in sport is a worldwide problem but winning the right to hold the Olympics in the UK makes it a pressing issue within this country and one which should command particular Government attention at this time. While we recognise that there is great potential for human enhancement technologies in some forms to be beneficial to sportspeople and the image of sport, it is necessarily the negative connotations which currently have most public impact. We believe that the recommendations set out in this Report would make a vital contribution to ensuring that the issue of doping in sport is handled sensitively and efficiently within the UK in the run up to and during the 2012 Olympic Games.

Conclusions and recommendations

Background

The ethics of doping

1. We believe that ethics are an important consideration in the fight against doping and are concerned that limited attempts are being made to address this issue. We recommend that UK Sport establish a Committee to examine the ethical aspects of doping in sport and advise WADA on possible changes to the consideration of ethical issues within its operations. We also believe that UK Sport and WADA should consider the case for funding research into the ethics of doping. (Paragraph 46)

The culture of doping

Prevalence of doping

2. We recommend that UK Sport commission research into the real incidence of doping both in general and in particular sports in order that the magnitude of the problem may be understood and the means of tackling it may be better defined. (Paragraph 50)

Obtaining banned substances

3. We are concerned at the ease by which banned, and potentially dangerous, substances can be obtained for use by athletes and we recommend that the Government review regulation in this area. (Paragraph 52)
4. We do not believe that it is in the best interest of the athlete for WADA to remove its accreditation from laboratories testing commercial supplements for use in sport. We recommend that the Minister for Sport maintain pressure on WADA to secure the continuing accreditation of laboratories which also test commercial supplements. In addition, we recommend UK Sport take the lead in working with relevant bodies to put in place a certification system for supplements used in sport to regulate against contamination of food supplements and provide assurance to athletes on the purity of what they are taking. (Paragraph 57)
5. We recommend that UK Sport consult upon and review its education material aimed at general practitioners and other medics on the issues faced by athletes, providing further education if this is deemed necessary to clarify WADA prohibited substances and the routes via which such substances may be given. (Paragraph 58)

Prevention and detection of doping

The WADA Code

6. We urge DCMS and UK Sport to press WADA for clear reasoning to be given for each substance and method included on the Prohibited List and for its decisions in cases where substances and methods are examined but not banned. As a general rule, we should like to see increased attention paid by WADA to the science behind substances and methods considered for inclusion in the List. (Paragraph 63)
7. We are concerned at the approach taken by the Government to the use of recreational drugs in sport where they may be performance-enhancing and against the spirit of sport, and we urge the Government to conduct further research to ascertain the possible performance-enhancing capacity of social drugs in sport. (Paragraph 65)
8. We recommend that UK Sport press WADA for abolition of the abbreviated TUE system, and that UK Sport ensure that all TUEs in the UK are awarded on the basis of sufficient evidence that an athlete requires the medication for which the exemption has been awarded. (Paragraph 68)

Testing for use of illegal HETs

9. We recommend that UK Sport further develop its research programme into the science behind doping and that it apply understanding of the effects and pharmacokinetics of banned substances to its testing programme to help further identify optimum testing time-points for doping in sport. (Paragraph 69)
10. We recommend that UK Sport work with WADA to help further develop WADA's testing regime and increase the chance of catching athletes who are guilty of doping. (Paragraph 71)
11. Whilst we accept that most testing is satisfactorily carried out through urine, we are of the view that increased research may be needed to determine the most appropriate testing route for different prohibited substances and we urge the Government to consider supporting studies of this nature. In the meantime, we urge UK Sport to increase its programme for testing blood samples since this may facilitate more detailed testing for prohibited substances, either in the present or future (Paragraph 72)
12. We recommend that UK Sport and WADA increase storing of data and samples to allow re-evaluation and analysis of test samples once more sophisticated detection methodologies have been developed. (Paragraph 75)
13. We urge UK Sport to consider the value of implementing a policy in which all UK athletes would be obliged to compete internationally in the 12 months prior to the 2012 Olympics in order to be eligible for participation in the games, with exemption given where appropriate, for example in cases of serious and proven injury. (Paragraph 76)

14. We recommend DCMS evaluate whether the resources allocated to anti-doping within its own department are sufficient, and whether they will be so by 2012. (Paragraph 77)

UK anti-doping programme

15. We recommend that, rather than arrogate to itself a world-wide leading position, UK Sport operate a continuous review process to ensure current and future success of the UK anti-doping programme. This review process should include monitoring whether the rules are understood and applied consistently across all sports in the UK. (Paragraph 80)
16. We recommend that UK Sport work with schools to develop an effective mechanism for educating about the harm which doping in sport can cause. (Paragraph 82)

Investigation and prosecution of doping

Conflicts of interest

17. We urge UK Sport and DCMS to liaise formally with ASADA and USADA in order to determine best practice in testing, investigation and prosecution of doping offences. We recommend that a separate body be established to undertake these roles in the UK, independent of UK Sport and the national governing bodies of individual sports. (Paragraph 88)

Criminalisation of doping

18. We urge the Government to initiate a review of the experience of countries which have put in place laws criminalising doping in sport. (Paragraph 91)

Sanctions for doping offences

19. We urge UK Sport to recommend to WADA that a minimum four year ban is applied in all incidences of proven doping. (Paragraph 92)
20. We urge UK Sport to consider a mechanism by which athletes would be liable for repayment of all financial gains, perhaps from the point of the last 'clean' test they had given. (Paragraph 93)
21. We recommend that UK Sport and sporting bodies consider making it a requirement that athletes should disclose sources of doping before they are allowed to return to competitive sport. (Paragraph 94)

Resolving disagreement

22. We urge the Government to clarify the position regarding the jurisdiction of the Court of Arbitration for Sport for arbitration and mediation of disputes in doping cases which may occur prior to and during the London 2012 Olympics and to take

any steps necessary to ensure that appropriate jurisdiction is established. (Paragraph 96)

Keeping ahead of the game

Horizon scanning

23. We recommend that the Government establish effective means of monitoring and evaluating potential areas of threat from doping prior to the London 2012 Olympics. We recommend that this responsibility be given to the new organisation in charge of testing, investigation and prosecution of doping offences, distinct from UK Sport, as recommended earlier in this Report. (Paragraph 98)

Research into illegal HETs

24. We recommend that DCMS and UK Sport develop a funding stream to support research into potentially prohibited substances and methods for their detection. We recommend that funds be made available for this work well in advance of the London 2012 Olympics. (Paragraph 103)

Alternative methods for catching cheats

25. We recommend that the UK pilot the development of a doping passport and that government funds be made available for development of this scheme. To support this, we recommend that funding be given for research into normal physiology and changes in physiological characteristics after doping with illegal substances (Paragraph 105)

Preparing for the 2012 Olympics

Scaling up testing

26. We recommend that UK Sport and DCMS urgently consult on requirements for scale-up of testing facilities, personnel and protocol during the London 2012 Olympics and that Government funding for meeting such requirements be made available. This will clearly require close working with LOCOG and to facilitate this, we urge the Government to provide a clear statement on the responsibilities and remit of LOCOG and UK Sport regarding the London 2012 testing programme. (Paragraph 109)

Liaison

27. We recommend that immediate mechanisms be put in place by UK Sport to learn how other countries have managed doping during large international sporting events. We recommend that the Government liaise actively with WADA, IOC and other governments to ensure that the UK is not only well prepared for anti-doping during the 2012 Games, but that there is a clear understanding of the protocols the UK must have in place. (Paragraph 111)

28. We recommend that the Government develop an action plan in conjunction with UK Sport to ensure that the UK is prepared for anti-doping well in advance of the 2012 Games. (Paragraph 111)
29. We recommend that mechanisms be put in place for informed liaison between UK Sport or any replacement anti-doping authority and HM Revenue and Customs to identify and monitor prohibited substances brought into the UK which may be intended for use during the 2012 Olympic Games. (Paragraph 112)

Being the best legally

Use of legal HETs

30. We should like to see a culture of 'openness' developed and maintained in which athletes can easily access help and advice in situations where use of legal HETs may be appropriate. UK Sport should take the lead in fostering this approach through its links with the national sporting bodies. (Paragraph 115)

Development of legal HETs

31. We recommend that the Government review the quality of sports science research in the UK and implement mechanisms for enhancing training and support where required. (Paragraph 118)
32. We recommend that the Research Councils include research into sports science within their funding remits. Furthermore, we urge the co-ordinating body, Research Councils UK to examine the ways in which sports science could be more effectively served across the Research Councils. (Paragraph 121)
33. We recommend that the Government develop a specific funding stream for research into legal mechanisms for enhancing human performance in sport. (Paragraph 122)

Knowledge transfer

34. We urge UK Sport to develop formal mechanisms for the sharing of knowledge and information between the different sectors and to look at mechanisms for maximising the application of knowledge already in existence to the benefit of sport in the UK. Furthermore, we recommend that the UK Research Councils identify mechanisms for enhancing the sharing of information relevant to sports science between the different academic disciplines. (Paragraph 129)

Abbreviations

AIS	Australian Institute of Sport
ASADA	Australian Sports Ant-Doping Authority
BOA	British Olympic Association
CAS	Court of Arbitration for Sport
CMS	Culture, Media and Sport
DCMS	Department for Culture, Media and Sport
EIS	English Institute of Sport
EPO	Erythropoietin
ESSNA	European Specialist Sports Nutrition Alliance
HET	Human enhancement techniques
IOC	International Olympic Committee
LOCOG	London Organising Committee of the Olympic Games and Paralympic Games
NADO	National Anti-Doping Organisations
NGB	National governing body (of sport)
TUE	Therapeutic Use Exemption
USADA	United States Anti-Doping Agency
WADA	World Anti-Doping Agency

Glossary of sports-related organisations

British Olympic Association (BOA)	The BOA is responsible for the United Kingdom's participation in the Olympic Games and gives financial support to athletes.
English Institute of Sport (EIS)	A network of nine regional multi-sport hub sites and satellite centres offering services to athletes.
International Federations (IF)	IFs have a similar role to NGBs. They adopt the WADA code to fit their particular sport's needs and monitor NGB compliance.
International Olympic Committee (IOC)	The IOC is responsible for organising the Olympics Games and for promoting sport at all levels. It determines Olympic testing programmes for drugs.
National Governing Bodies (NGB)	Each sport has a national governing body which supports its members and their interests. NGBs sign up to the rules of the UK anti-doping programme (under UK Sport) and are responsible for investigation and prosecution of doping offences within their sport.
UK Sport	UK Sport co-ordinates sports policy and manages public investment in sport in the UK. In relation to anti-doping, it is the UK's national anti-doping organisation, with responsibility for the implementation and management of the UK's anti-doping programme. It also runs the UK's testing programme, passing positive results to the relevant NGB or IF.
World Anti-Doping Agency (WADA)	WADA promotes, co-ordinates and monitors the fight against doping in sport. It co-ordinates development and implementation of the WADA code and runs world-wide athlete-testing programmes, passing positive test results to UK Sport. It also sets lists of prohibited substances and methods.

Formal minutes

Wednesday 7 February 2007

Members present:

Mr Phil Willis, in the Chair

Adam Afriyie
Dr Evan Harris
Dr Brian Iddon

Dr Bob Spink
Dr Desmond Turner

The Committee deliberated

Draft Report, *Human Enhancement Technologies in Sport*, proposed by the Chairman, brought up and read.

Ordered, That the Chairman's draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 130 read and agreed to.

Summary read and agreed to.

Abbreviations and Glossary read and agreed to.

Resolved, That the Report be the Second Report of the Committee to the House.

Ordered, That the Appendices to the Minutes of Evidence taken before the Committee be reported to the House.

Ordered, That the Chairman do make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Wednesday 21 February at Nine o'clock.

Witnesses

Wednesday 19 July 2006

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Mr Matthew Reader, Head of Elite Sports Team, Department for Culture, Media and Sport, **Mr John Scott**, Director of Drug Free Sport, and **Ms Allison Holloway**, Education Manager for Drug Free Sport, UK Sport Ev 1

Wednesday 25 October 2006

Professor Ian McGrath, University of Glasgow and Chairman of the Physiological Society, **Mr John Brewer**, Director of Sports Science and the Lucozade Sport Science Academy, GlaxoSmithKline, **Dr Bruce Hamilton**, Chief Medical Officer, UK Athletics and **Dr Anna Casey**, Research Fellow, QinetiQ Ev 17

Wednesday 29 November 2006

Dr Richard Budgett, Chief Medical Officer, British Olympic Association, and **Dr Arne Ljungqvist**, Chairman, International Olympic Committee (IOC) Medical Commission and Chairman of the World Anti-Doping Authority (WADA) Medical Research Committee Ev 34

Tuesday 12 December 2006

Rt Hon Richard Caborn MP, Minister for Sport, Department for Culture, Media and Sport Ev 50

Written evidence

1	Office of Science and Innovation	Ev 55
2	Department for Culture, Media and Sport	Ev 58, 104, 105
3	Dr Andy Miah, University of Paisley	Ev 62
4	Research Institute for Sport and Exercise Sciences, Liverpool John Moores Univeristy	Ev 66
5	Professor MR Yeadon and Professor R J Maughan, School of Sport and Exercise Sciences, Loughborough University	Ev 70
6	Dr Henning Wackerhage and Dr Aivaras Ratkevicius, School of Medical Sciences, College of Life Sciences & Medicine, University of Aberdeen	Ev 71
7	European Specialist Sports Nutrition Alliance	Ev 73
8	Professor Julian Savulescu, Director, Oxford Uehiro Centre for Practical Ethics, University of Oxford and Bennett Foddy, Center for Applied Philosophy and Public Ethics, University of Melbourne	Ev 80
9	Michelle Verroken, Director, Sporting Integrity	Ev 84
10	GH-2004	Ev 88
11	Dr Bruce Hamilton, Chief Medical Officer, UK Athletics	Ev 92
12	British Olympic Association	Ev 94
13	Professor Ian McGrath, Institute of Biomedical & Life Sciences	Ev 96
14	Dr H Hoppeler, Institute of Anatomy, University of Bern	Ev 97
15	Dr M J McNamee, University of Wales, Swansea	Ev 97
16	Dr Arne Ljungqvist, Chairman, International Olympic Committee (IOC) Medical Commission and Chairman of the World Anti-Doping Authority (WADA) Medical Research Committee	Ev 102
17	Zef Eisenberg	Ev 103

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Fourth Report	Watching the Directives: Scientific Advice on the EU Physical Agents (Electromagnetic Fields) Directive	HC 1030
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Third Special Report	Meeting UK Energy and Climate Needs: The Role of Carbon Capture and Storage: Government Response to the Committee's First Report of Session 2005-06	HC 1036
Fourth Special Report	Strategic Science Provision in English Universities: A Follow-up: Government Response to the Committee's Second Report of Session 2005-06	HC 1382
Fifth Special Report	Research Council Support for Knowledge Transfer: Government Response to the Committee's Third Report of Session 2005–06	HC 1653
Sixth Special Report	Watching the Directives: Scientific Advice on the EU Physical Agents (Electromagnetic Fields) Directive: Responses to the Committee's Fourth Report of Session 2005–06	HC 1654