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STUDY

Policy Department B
Structural and Cohesion Policies

DOPING IN PROFESSIONAL SPORT

CULTURE AND EDUCATION

June 2008

EN

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Directorate General Internal Policies of the Union

Policy Department Structural and Cohesion Policies

CULTURE AND EDUCATION

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IP/B/CULT/IC/2007-067 **06/2008**

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Author: Christophe Brissonneau, head of the study[1],
CERSES UMR 8137 CNRS, Université Paris Descartes

Responsible official: Gonçalo Macedo
Policy Department Structural and Cohesion Policies
European Parliament
B-1047 Brussels
E-mail: ipoldepb@europarl.europa.eu

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[1] In collaboration with Dominique Bodin and Anne Deflandre, Laboratoire de Recherche en Sociologie Larés-Las EA 2241 Université Européenne de Bretagne-Rennes 2; Paul Delamarche, Arlette Gratas-Delamarche, Françoise Rannou-Bekono and Hassane Zouhal, Laboratoire Mouvement Sport Santé Université Rennes 2 EA 1274 Université Européenne de Bretagne-Rennes 2; Eric Pechillon and Xavier Pirou, Laboratoire d'étude du droit public LEDP E.A 2237 Université Européenne de Bretagne-Rennes 1; Luc Robène, Peggy Roussel and Gaëlle Sempé, Laboratoire de Recherche en Sociologie Larés-Las EA 2241 Université Européenne de Bretagne-Rennes 2.

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Content:
This study examines the current and future ways in which doping can be detected by reviewing the various practices and sporting disciplines. Beyond a simple description, the study takes a wider look at the reasons behind the fight against doping, illustrating models which vary in how they address this important issue. Suggestions are also made on how the EU should tackle doping in future, based on the various models described**.**

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Executive summary

Irrespective of the positions and comments that might be adopted or made in various quarters, it must be said that the issue of doping and its prevalence undermine not only the principles enshrined in recent reports by the European Union and the Council of Europe, but also the supposed effectiveness of the anti-doping campaign. This study will first look at what powers the EU has to combat doping, and then examine the current situation in terms of biological research and how the fight against doping is being implemented.

1. Gradual introduction of a supranational anti-doping policy at European level

Before contemplating any type of intervention, it is essential that we ask neutral questions about the underlying justification for an anti-doping policy. Doping may not even be considered a problem in some sports, depending on how members of the sporting community perceive their sport. If we take sporting events as they appear to exist in some Anglo-Saxon countries or in the United States, the rules of fair play do not seem fundamental and doping is ultimately only a means of enhancing performance and thus improving the 'spectator value' of the sport. Conversely, if we come at it from the point of view of competitive sport, where only the physical abilities of each athlete and his or her training should count, then doping negates this idea of natural competition. Therefore, the very idea of a fight against doping is questionable if we refuse point blank to be 'politically correct' and try to adopt a general approach to the issue.

The fight against doping is not new. National legislators have taken various approaches to try to combat doping. Similarly, at international level, it is not the absence of legislation which seems to pose a problem, but rather that it has been watered down, that it lacks consistency at times and above all that the principles enshrined are a hollow gesture because they cannot be enforced. Each Member State has a different way of dealing with the issue, depending on whether the government has responsibility for sport or whether it shares or delegates these powers with or to other bodies. Harmonisation does not seem to be on the agenda, nor is this what people in the sporting world wish for.

The European Union often talks about wanting to combat doping in sport and has been at pains to emphasise the wide range of challenges linked with doping: challenges in terms of sport, the media, politics, medicine and society. The White Paper essentially recalls the role of sport in society and condemns doping as a 'threat to individual and public health, to the principle of open and equal competition, and to the image of sport'. Therefore, while the EU can be induced to touch more or less directly on the issue of sport and doping through its other policies, it is hard to envisage a specific policy on doping coming under European jurisdiction.

This raises the question of the nature of the fight against doping: should we tackle doping because it undermines competition between athletes and companies involved in sport and sporting events, and by extension between professional bodies (with all that this implies in terms of share prices, sponsors, and so on), or should the anti-doping campaign ultimately be conducted in the interests of ethics or public health? This brings us back to the central question that the European Parliament must ask itself: namely, the reason for intervening.

Doping evidently represents a violation of sports ethics, but is it a violation of laws or rights? The more justified it seems to punish the athlete's entourage if they facilitate or encourage doping, the less effective the sanction seems on the athlete. In effect, blame is assigned depending on whether or not the athlete was fully aware of using doping products.
The organisation of an anti-doping campaign under the aegis or impetus of the European Union therefore assumes that the European institutions have adopted a clear legal position on the classification of sport at competition level and on the functions of a harmonised policy. From these, it is possible to identify three models.

Model no 1 approaches the issue of doping from the public health angle. This position is perfectly rational (it is similar to the one adopted by France, which has inserted several provisions into the French Public Health Code), but ultimately refuses to grant any exemption for athletes. The laws made, the controls put in place and the organisations created are in fact designed to protect society rather than the individual. The doping effects of products and methods have been researched and are known, but the authorities (particularly in Europe) leave it to sports bodies to regulate and monitor the practices of their 'members'. The corpus of legislation does not prevent medical research, but asks it to make public the potential effects of products and methods on sport. By doing so, pharmaceutical companies, for example, may be required to carry out tests and to publish the results in terms of health and indeed performance.

Model no 2 is the one that tackles the issue of doping most directly, although it does so solely for the sake of sports ethics. In all fairness, the wide variety of doping practices makes it impossible to conceive a single regulation that would cover all disciplines. An effective anti-doping regulation assumes that there is a precise definition of the sacrosanct values of sport, as well as a specific legal status for sportsmen and women. In effect, it is a question of drafting a regulation which is specific to a particular group, a 'community', which by definition is on the margins of society. The use or even possession of over-the-counter products is prohibited, not only for sports participants, but also for their entourage. Controls are designed to disqualify cheats and not to protect the health of the individual, because it is conceivable that a doping product may not pose a health risk. Respect for equality between participants in a sporting event implies that everyone has the same abilities and techniques. Since this is inherently unrealistic, any attempt to completely eliminate the subversion of sports ethics will always fail, although this does not mean that it should not be undertaken.

Model no 3 is the one that dovetails the most neatly with the traditional powers of the European Union, and the one which is the cheapest to implement, although it deliberately moves away from the consensus on the subject. Sport is treated as a normal economic activity in a liberal society. The central rule is respect for freedom and competition. The type of regulation that might be envisaged here comes under 'common law', the athlete being a simple market operator. Rules could be introduced modelled along the lines of labour laws and 'employee' protection; in other words, individuals are prevented from carrying out an activity if the products or techniques used represent a risk to their health and integrity or to those of others. Alcohol tests for motor sport might be considered, although these tests are no more legitimate than systematic testing of public transport workers.

2. Biological aspects of doping: methods, detection and risks

At the beginning of 2009, the World Anti-Doping Code will be introduced as a reference for sports bodies and countries that have signed the UNESCO Convention against Doping in Sport.

To be included on the Prohibited List, a substance must be a masking agent or satisfy **two of the following three criteria**: 1) it has the potential to enhance or **enhances sport performance**; 2) it represents an **actual or potential health risk**; or 3) its use **violates the spirit of sport**. None of the three criteria mentioned is sufficient on its own to justify the inclusion of a substance on the Prohibited List.

2.1. Products are detected in one of two ways:

a) Directly: Progress is undeniable thanks to the development of cutting-edge techniques (using chromatography, mass spectrometry and radioisotopes such as HPLC, LCMS-MS and IRMS) and it is now technically possible to detect all recognised doping substances. The future of detection lies in the field of metabonomics and proteomics, molecular biology techniques which are essential for detecting new molecules and gene doping. Despite this encouraging news, detection is proving extremely difficult and is only partly successful, for a number of reasons:

Obviously, only those categories of substances or methods which have been researched can be detected.
The results are still questionable because they carry the risk of error: false positives (wrongly indicating doping) or false negatives (some products have already been eliminated by the time the test is carried out, or are masked by taking other products, or have not been researched**).**

b) Indirectly: This approach is aimed at improving the sensitivity and effectiveness of detection and to act as a deterrent. The aim is to test for markers in a biological specimen, since these vary significantly in the presence of doping. A 'blood passport' was launched recently, although we wonder whether this might not have been done too hastily. The organisation, method, pre-analysis, techniques, kits used, protocols and execution do not seem to have been properly thought out.

2.2. Current and future doping methods

It seems that the doping products used have not changed much over the past 15 years: testosterone and growth hormone are still widely used today. However, it should be noted that the use of EPO, in all of its forms, is increasingly popular because it is currently the only substance which enhances performance (in terms of endurance) on its own, in the absence of any associated training. The current preference is for doping administration methods which are increasingly accessible and 'comfortable' (for example, subcutaneous injection, gels and slow-release drugs).

2.3. Future methods

Over the next five to 10 years, we predict not the emergence of new methods but rather the development of existing methods such as:

- ***Growth factors.*** These have been used in sports therapy for several years now to accelerate tissue repair following injury or surgery and to speed up recovery. They contribute to this process by stimulating the new cell formation and supervising their specialisation depending on the type of tissue that they need to become: e.g. skin, muscle, tendon, ligaments, etc. The results in sports trauma can be spectacular.

- ***Gene doping***: This has not been proven to be effective in humans because ethics and the ban on doping render any human scientific study impossible. However, it has been tested on animals. Recent experiments have shown that IGF1 transfection in the muscles of mice significantly limits age-related muscle loss and a reduction in the associated muscle strength. The benefits of developing these techniques for doping in sport are obvious.

2.4. Health risks

Officially, the health risk **is a major factor in anti-doping**. The harmful effects of doping depend on a number of parameters (nature of the substances consumed, duration of consumption, conditions of administration, general condition of the athlete, quantity used). Very little is known about the risks linked with the consumption of multiple products, at doses that are often supraphysiological, particularly as medical ethics and the doping ban render any human scientific study impossible. However, two types of risks can be posited:

a) ***General risks***: ingesting one doping product can lead to another being taken to hide or reduce the effects of the first. Added to this is the risk of infection linked with administration by injection.

b) ***Specific risks***: each category of drug has its own adverse side effects. Added to this are the risks of dependency associated with the consumption of psychoactive products.

Two important observations need to be made in this medical section. The first concerns individual freedoms. Taking a blood sample is a form of physical assault, while being asked to provide a urine sample is a form of psychological attack (the subject must urinate naked in a special room in front of two officials). A racing cyclist can undergo a large number of tests each year (12 blood tests, four urine tests and several in-competition tests, as a minimum). If doping is prohibited for ethical reasons, could it not be argued that an athlete's obligation to submit to anti-doping control is an attack on his or her freedom? The same applies for ADAMS (Anti-Doping Administration & Management System), which allows athletes to be traced from one day to the next. The second observation concerns the extremely high cost of the fight against doping. For example, the blood passport for 800 cyclists costs EUR 6 million. A single complete anti-doping test costs EUR 1 000. The fight against doping thus represents a non-negligible part of the budgets of national and international federations.

3. Doping, tests and sanctions based on a comparison of four international federations (athletics, cycling, football and swimming)

The intensive sporting calendar is often put forward to explain the rise in doping. This explanation seems to say more about the quality of competitions than the quantity. Although since the 1980s we have witnessed an increasing number of competitions in team sports, the opposite is true in individual sports. For example, in the case of cycling, the number of race days has fallen from 130 days in the 1980s to 80 days now. Conversely, for all of these sports, the number of high-level competitions has risen sharply, placing heavy demands on the athlete in terms of energy. This is combined with the increasing amount and intensity of training. Therefore, in our interviews with both clean and doped athletes, the problem of pain and injury following intensive training to prepare for these competitions seemed to be the main reason for resorting to doping.

In terms of anti-doping tests, numerous differences appear not only between international federations but also nationalities. First of all, there are marked differences in the way information is handled, with some international federations releasing little information about doping cases while others make no secret of it. Enormous differences in test positivity are also apparent. For example, whereas in 2004 this was 3.5% in athletics, it was only 1.02% in swimming. FIFA gives a figure of 0.12% over the last 11 years. These figures are extremely surprising, since the explanations (money, training demands, external pressures, etc.) given for athletics also apply to swimming and football. Is doping less common or are the controls less reliable in these sports? The quality of tests must also be compared. For example, the high number of doping cases uncovered in cycling in recent years is due to solid investigative work by police. To conclude on this subject of tests, note the prevalence of cannabis, a 'party drug', among the doping products identified. Next, as mentioned earlier, come steroids. These are detectable, but are they also as popular with athletes familiar with undetectable products?

The same inequalities are found when it comes to sanctions. Athletes from different federations do not face the same penalties. In the case of cannabis, the IAAF imposes a maximum suspension of six months, whereas FIFA imposes only a two-month suspension. The same occurs when we compare nationalities, since more than half of the cases of French cannabis use incurred a six-month ban, whereas two thirds of cases in Germany and Belgium got off with a warning. The same applies to prednisolone, where one third of French cases received a 14-month ban and all Belgian cases were banned for only three months.

4. Role of stakeholders in the fight against doping

A lack of consistency emerges in the reasons behind an effective anti-doping campaign, since not everyone seems to share the same goals. The sporting community is primarily interested in enhancing performance, and drugs (both legal and illegal) are part of this strategy. The pharmaceutical and dietary supplements industries want to maximise their profits. Sport represents only a fraction of their business, and their inability to manage sales of doping products properly is in many cases due to a lack of information in response to requests from anti-doping authorities rather than an intention to do any harm. Therefore, these three groups, while aware of the anti-doping campaign, are not one of its priorities. Conversely, the role of the police force and customs is to prevent any law and order violations. Doping does not fall into this category, and tackling it is relatively expensive in return for relatively lenient sanctions. Seizures of doping products therefore occur more by chance than design. To this we should add the absence of any organisation coordinating the actions of the various participants in the fight against doping.

5. Five scenarios for the fight against doping

To conclude this review, it seems important to suggest five scenarios for the fight against doping in Europe. These scenarios take into account both the assessment carried out and the anti-doping issues raised earlier in this report, as well as possible opportunity models for intervention by the European Union. We can start by acknowledging simple truths:

1. **The fight against doping has been a total failure**
   - The laws, regulations and controls have resolved nothing.
   - Tests give false positives.

- Tests reveal large numbers of cannabis smokers, which goes back to:
  - the question of equal treatment for athletes compared with ordinary citizens;
  - the wider question of social use of these 'soft' or 'recreational' drugs;
  - the question of criminal law treatment, which varies in each country.
- The 'true false negatives' are not identified because products are used which are currently undetectable.
- Anti-doping controls have resulted in gradual shifts in behaviour: deviancy amongst athletes and the emergence of a black market.
- Anti-doping controls have encouraged the use of dangerous products.
- Doping is on the increase.
- Some sports are either never caught out or else cover it up.
- The fight against doping has not therefore protected athletes' health, but may actually have harmed it.

2. **The fight against doping raises ethical problems:**
   - Athletes are discriminated against to varying degrees, depending on the sport they practice.
   - Discrimination depending on the amount of money there is in the sport and/or in the country of origin: this raises not only ethical questions but health problems too.
   - The fight against doping is an intrusion into private life and an attack on individual freedom (blood tests, urine tests).

3. Consequently, **athletes are discriminated against and treated differently from ordinary citizens**. Why not adopt the same measures for our political leaders? Or for our captains of industry? Or for the senior executives of large corporations? And so on.

4. If we are unable to eliminate doping because athletes want to win medals, or due to the rationale of competitive sport or the profit-making interests of companies, **then should we not try instead to reduce the risks faced by athletes by improving supervision over the long term?**

5. **Should we not start by carrying out an extensive epidemiological survey** to determine whether or not top athletes who take drugs experience more health problems, disease and premature deaths than ordinary individuals?

Scenario 1: Continuation of the ban

Advantages: None

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. Categorisation of citizens: ordinary citizens versus civilians. The athlete is not an ordinary citizen. **2.** Problems with detecting doping cases.		**2a.** Need for longitudinal supervision regardless of the sport (legally, this is an attack on personal freedom, which requires the athlete's consent). **2b.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	**1 to 4.** Extend sanctions to club managers, federations and doctors.
3. Problems with detecting products.	**3a.** Two-speed doping (professional sport and athletes/amateur sport and athletes, and poor countries versus developed countries). **3b.** Health of athletes who are isolated later on.	**3a.** Need to monitor networks and supply points (e.g. personal files, venue records, etc.) and the athlete's immediate entourage. **3ba.** Need to carry out epidemiological surveys of athletes who have retired from the international scene. **3bc.** Implementation of medical supervision over the long term. **3bd.** Increase the number of education and prevention campaigns.	
4. Problems related to federations.	**4a.** Cover-ups (to keep a sport clean and 'marketable' **4b.** Absence of coordinated control. **4c.** Revisit links between national and European federations to establish shared responsibility. **4d.** Non-disclosure or incomplete disclosure of results.	**4a.** Need for a fully independent body to organise and manage testing. **4b.** Need for a specific regulation so that athletes cannot refuse to be tested (see for example the problems in Spanish football). **4c.** Introduce sanctions for federations and leaders.	

Scenario 2: Legalisation for professional sports or athletes

Advantages: Allow 'health' supervision of athletes and revise existing situation

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. How can we decide whether a sport is 'truly' professional and thus define a limited sporting exception?	**1.** Increase in the number of sports claiming to be 'professional', but which are not.	**1.** Draw up a list of sports. Who is responsible and who has overall control?	
2. How can we distinguish between professionals and amateurs within the same federation?	**2.** Amateurs who take drugs so that they can turn professional.	**2.** Draw up a list of amateur and professional athletes in each federation. How often should this be done? Who is responsible for this?	**2.** Testing in amateur sport: ban on turning professional if the athlete tests positive?
3. What about young people (minors) who grow up in professional sport?	**3a.** Difficulty in protecting young people who take drugs so that they can turn professional.	**3aa.** Need to plan longitudinal supervision regardless of the sport (athlete's consent required). **3ab.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	
	3b. Is there not the risk of reducing the number of young people in federations if the parents are concerned?		
4. What about equality between sports?			

Scenario 3: Legalisation for seniors

Advantages: **Allow 'health' supervision for athletes, revise existing situation and protect 'minors'**

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. How is control exercised?	**1a.** Minors may take drugs to progress to senior level.	**1a.** Need to plan longitudinal supervision regardless of the sport (athlete's consent required).	
	1b. Too much disparity exists between junior and senior levels. The same applies to professionals and amateurs.	**1b.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	**1b.** Ban on being promoted to senior level for minors who test positive.
2. What about legality between athletes, e.g. minors who grow up to become seniors?			
3. Should 'young people' growing up to become seniors be considered as seniors? This will result in a new sporting exception.	**3a.** Increase in uncontrolled doping in minors who want to progress to senior level at any cost.	**3aa.** Need to plan longitudinal supervision regardless of the sport (minimum competition level). **3ab.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	

Scenario 4: Introduction of maximum test rate

<u>Advantages:</u> Allow 'health' supervision for athletes, revise existing situation and adopt 'soft' approach to legalisation

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. Difficulty in drawing up a list.	**1a.** Use of a variety of different techniques to standardise marker rates.	**1a.** Information and training for athletes.	
	1b. Use of masking products.	**1b.** Information and training for coaches. **1c.** Duty to declare what products have been taken.	
2. Problems related to tests.		**2a.** Need for a fully independent body to organise and manage testing. **2b.** Set up testing and supervision bodies. Obligation for supervision by a specified body, or failing that, a ban on competing.	**2b.** If there is no supervision, then banned from competing.
3. Problems related to how testing is organised.		**3a.** Need to plan longitudinal supervision regardless of the sport (athlete's consent required). **3b.** Need to increase out-of-competition testing.	

Scenario 5: Total legalisation of top athletes with compulsory supervision

Advantages: **Allow 'health' supervision for athletes, revise existing situation**
The athlete is treated like an ordinary citizen

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. Increase in the number of doping cases.	**1a.** Use of potentially health-endangering products (particularly at high doses).	**1.** Organisation of longitudinal supervision of athletes (health perspective).	
	1b. Continued existence of a parallel market.	**1b.** Improved product control (traceability).	**1b.** Criminal law sanctions and fines, as in the case of drug dealing.
		1c. More control over distribution chains.	
2. Recourse to doping at a very young age in athletes who want to reach the highest level: doping is the norm.	**2a.** Major health risk in growing young athletes.	**2aa.** Organisation of longitudinal supervision of young athletes (health perspective).	
	2b. Two-speed doping – rich and poor.	**2ab.** Need to organise education and awareness-raising campaigns (who?).	
3. Athletes: wealthy clubs/sports which use or have access to unknown products or techniques.	**3.** Emergence of a parallel market.	**3a.** Organisation of longitudinal supervision of athletes (health perspective).	**3a**. Example made of managers, athletes, doctors, etc.
		3b. Need to draw up a list of 'possible' products and keep this up to date.	
4. Poor image of the sport.	**4a.** Fall in numbers. **4b.** Lack of interest in competing.		
5. Need to introduce 'health' supervision.		**5.** Create supervisory bodies. Obligation for supervision by a specified body, or failing that, a ban on competing.	**5.** If there is no supervision, then banned from competing.

Acronyms

ARV	Anti-Doping Rule Violation
CDSD	Committee for the Development of Sport concerning Doping
CIO	International Olympic Committee
CJEC	Court of Justice of the European Communities
EAGGF	European Agricultural Guidance and Guarantee Fund
EFSA	European Food Safety Authority
EO	Equal Opportunities
EPO	Erythropoietin
rHuEp	Recombinant human erythropoietin
ERDF	European Regional Development Fund
ESF	European Social Fund
FIFA	International Federation of Association Football
FIFG	Financial Instrument for Fisheries Guidance
FINA	International Swimming Federation
GH	Growth hormone
GIA	Gender Impact Assessment
HACCP	Hazard Analysis Critical Control Point
IAAF	International Association of Athletics Federation
ICT	Information and Communication Technology
IGF1	Insulin Growth Factor 1
IRMS	Isotope ratio mass spectrometry
LCMS	Liquid chromatography-mass spectrometry
LCMS	Liquid chromatography-mass spectrometry
NGO	Non-Governmental Organisations
NADA	National Anti-Doping Agency
OP	Operational Programme
PMC	Programme Monitoring Committee
QLFD	Quarterly Labour Force Data
ROP	Regional Operational Programme
R&D	Research and Development
SFSG	Structural Funds Strategy Group
SME	Small and Medium Enterprise
SPD	Single Programming Document
SWOT	Strengths, Weaknesses, Opportunities, Threats
UEFA	Union of European Football Associations
UCI	International Cycling Union
VISPO	Strategic Gender Impact Assessment of Equal Opportunities
WEFO	Welsh European Funding Office

Contents

By way of introduction: a few disclaimers

Irrespective of the positions and comments that might be adopted or made in various quarters, it must be said that the issue of doping and its prevalence undermine not only the very principles of the White Paper on Sport[2] presented by the European Commission, but also the European Sport Charter[3] and **Anti-Doping Convention**[4] of the Council of Europe.

Doping contradicts the values put forward by the European Union to define the role of societal role of sport (equality, dialogue, personal self-fulfilment, etc.), particularly in subparagraph 2-1 of the White Paper on Sport, '**Enhancing public health through physical activity'**. The White Paper (2007, 6) states that doping 'undermines the principle of open and fair competition. It is a demotivating factor for sport in general and puts the professional under unreasonable pressure. It seriously affects the image of sport and poses a serious threat to individual health'. Therefore, we are immediately faced with four problems:

1. public health, first of all (this point will be tackled from a legal perspective in this report), because although we are conducting a survey here of doping in top-level sport, all studies show that 'amateur' sport or sport practised at a lower level is also affected by doping;
2. fairness and sports ethics, diluting the role of intercultural dialogue that healthy and educational sport has, according to Coubertin's sporting ideal;
3. image, not only in terms of the question of the future development of competitive or professional sport, but in terms of potential barriers to children signing up for sports considered dysfunctional, corrupted or health-endangering;
4. protection for young athletes who, having embarked on a top-level sports career at an early age, are confronted with the need to resort to doping.

In fact, doping as it is perceived and treated today poses a problem for society which goes far beyond the simple issue of athletes' health: that of the sustainability of an activity which, far from respecting its own underlying values and principles (fair play, equal opportunities, fairness, safety, etc.) is transformed into a dysfunctional system built on cheating and inequality and potentially causing health risks.

A fundamental problem remains: that of the competence of the European Union and the Commission. Being interested in sport is one thing, but recognising, as is in the Nice Declaration (7-9 December 2000)[5], its social utility and the benefits of taking sport into account in the implementation of common policies is not sufficient, at present, to give the Commission powers in this area beyond regulating the illegal trafficking of products.

The same applies for the European Sport Charter and the Anti-Doping Convention of the Council of Europe. Bear in mind that the earliest text adopted by the Council of Europe in sport dealt with doping. In the annexes to the recommendation[6] (1992, 7), it is in fact clearly stated that 'governments […] shall take the steps necessary to apply the provisions of this Charter in

[2] {SEC(2007)932} {SEC(2007)934} {SEC(2007)935} {SEC(2007)936}
[3] Recommendation N° R (92) 13 REV.
[4] Convention (European Treaty Series n° 135) and extensions.
[5] http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/fr/ec/00400-r1.%20ann.f0.htm.
[6] N° R(92) 13 rev.

accordance with the principles set out in the Code of Sports Ethics in order […] to protect and develop the moral and ethical bases of sport […] by safeguarding sport, sportsmen and women […] from practices that are abusive or debasing including the abuse of drugs […]'. The ratification of the Charter did not necessarily lead to the adoption of national laws covering or specifically addressing the issue of doping, no more than their existence resulted in their actual application. The tables in this study show this: doping is not on the decline. A simplistic reading might suggest that some sports (we have taken four as an example: athletics, cycling, football and swimming) are much more affected by doping than others. This is not actually the case. The incidence of doping is as much a reflection of the activity of federations as of their inactivity in terms of introducing effective, regular, longitudinal and truly random testing. At this level, cycling is more proactive than football, which continues to deny the existence of doping in the sport. The absence of doping cases also reflects the amount of money in the sport. Wealthy sports and athletes can afford undetectable products and the best 'chemists'. Known cases of doping are just the tip of the iceberg, representing athletes who are unfortunate enough to belong to a federation which actively tries to combat doping, or athletes who use products which are too easy to detect or which are sometimes not even taken for doping purposes (such as cannabis, for example).

The problem that arises here is the delegation of anti-doping powers to sports bodies. The lack of competence of the European Union and the role allocated to the Council of Europe force them to respect the sacrosanct principle of 'the autonomy of the voluntary sports movement' and 'its capacity for self-regulation'. It is a question of the deregulation of a system managed on the fringes of ordinary citizenship.

Sport remains free to regulate doping or not, as it sees fit, to publish known cases of doping, to use different testing procedures both in terms of frequency and form and to apply uncomparable sanctions. Is there confusion between the freedom of assembly and of association and sports management decontextualised from normal rules and laws?

One question remains: does the fight against doping, in its current form, respect fairness between citizens? Simply put, does it respect the 'Universal Declaration of Human Rights'[7]? Athletes, and particularly top-level athletes, are subject to control, supervision and 'traceability', infringements of their private life that most ordinary citizens who take drugs do not experience, and which no one would dream of imposing on senior executives or on the political and economic intelligentsia.

This report will examine each of the following in turn:

1. The gradual introduction of a supranational anti-doping policy at European level, with a quick recap on the legislative proposals and experiments developed by the Council of Europe, but more importantly an examination of the powers of the EU to intervene openly in this issue. This report offers three possible regulatory models (model n° 1: public health, model n° 2: sports ethics, model n° 3: business and entertainment). Each model consists of a particular public policy which is precise and specific enough to be able to produce both coherent effects and to allow the European Union to intervene in this significant issue. While it is possible to envisage an international initiative combining several of these legal models, we must still bear in mind that interventionism in the fight against doping will have significant consequences in terms of the protection

[7] http://www.un.org/french/aboutun/dudh.htm.

of fundamental rights and presupposes a precise definition of any existence of the 'specificity of sport'.

2. Biological aspects of doping: methods, detection and health risks. In doping, the methods and products used keep pace with scientific progress, suggesting that genetic engineering techniques will be adopted for doping purposes. Of course, there are also advances in detection methods. However, as perfected as these are, it is hard to see how they can stay ahead of this phenomenon. Therefore, it is proposed that direct detection methods should be supplemented by indirect detection methods, such as the biological supervision of the athlete, or even the introduction of the blood passport, which also act as a deterrent. All of these practices raise fundamental questions because they challenge the very principle of ethics and individual freedom, surrendered by the person who is forced to undergo all of these tests. However, the fact remains that the fight against doping is crucial when we consider the health risks for athletes who take drugs.
3. The doping issue from the point of view of tests and sanctions and based on a comparison of four international federations (athletics, cycling, football and swimming). The data gathered reveals significant differences between these sports, both in terms of the number of tests carried out (both random and non-random), the products identified, the classification of products, the application of sanctions for the same offence or even just communication on and disclosure of doping problems. The tables have deliberately not been made uniform in order to show how the different approaches towards doping compromise the analysis and understanding of the issue. In this respect, the comparison of the four sports is particularly revealing of the unequal treatment of athletes depending on their sport and, it has to be said, does not reflect the reality of doping.
4. The role of the various actors in tackling doping. The first thing to note is that the motives of the sporting community are quite varied and at times contradictory. However, everyone – or at least the majority – is opposed to doping. The second thing is the dispersion – and the resulting inefficiency – of initiatives to combat doping and a lack of information in general. This is due to the absence of a coordinating body.

Based on this overview, the research group has proposed five scenarios for the fight against doping, ranging from the continuation of the ban to the total legalisation of doping, with mandatory supervision of athletes, legalisation for professional sport or athletes, legalisation for seniors, or even the introduction of a cap on testing. These scenarios take account of the complementary measures to be adopted, the pernicious effects expected and the sanctions to be imposed. Evidently they dovetail with the three models of intervention of the European Union outlined in Chapter 1.

1 Gradual introduction of a supranational anti-doping policy at European level

1.1. To make EU intervention part of the movement initiated by the Council of Europe

Since its creation in 1949, the Council of Europe has been one of the pioneers in the fight against doping. Since 1963 it has sought to define doping as an 'intention' to boost human performance during competition by the administration of 'any substance not normally present in the body ... and/or of any physiological agent or substance ... when introduced in abnormal additional quantities'. It warned about the dangers of doping in Resolution 67 (12), inviting Member States in 1967 to introduce an anti-doping regulation (CDDS[8] (98) 90 part III, p. 23). According to the Council of Europe, the resolution was worded at a time when media coverage of the issues raised was starting to arouse the interest of the European collective consciousness (Council of Europe[9], 1999, p. 82).

At first, the trend was for international initiatives designed to monitor elitist practices and raise public awareness in Europe beyond simple media sensationalism over refusals to submit to testing, strikes, unrest, withdrawals and even deaths at sporting events. The IOC finally followed in the footsteps of the Council of Europe and some international federations (cycling) by adopting anti-doping regulations for its 1968 Olympic Games in Mexico.

The second strand developed by the Council of Europe came under the European Sport for All Charter [Resolution (76) 41], Article 5 of which stated that 'methods shall be sought to safeguard sport and sportsmen from exploitation for political, commercial or financial gain, and from practices that are abusive and debasing, including the unfair use of drugs[10]'. The latter point should not dodge the wider issue of the abuse of sport or debasement through sport, including the exploitation of human beings (Article 8 of the same Resolution).

In this context, negotiations between the institutions involved in sport gradually moved towards the creation of national anti-doping committees, in the absence of any existing legitimate, competent and independent international organisations. The European Anti-Doping Charter for Sport − R(84) 19 adopted on 25/09/1984 – extended the institutions' powers: recommendations were made regarding research, education and the appropriation of public money. As is all too often the case with this type of issue, the Charter was not legally binding. However, it would help bring about the ratification in 1989 of the European Anti-Doping Convention, which is unique in that it potentially applies to both European and non-European countries. The entry into force of this Convention in March 1990 was intended to make access to and use of drugs such as anabolic steroids (specifically mentioned) more difficult, and to facilitate the introduction of anti-doping tests, including out-of-competition testing. This latter recommendation had already been applied in countries such as Sweden, where the majority of testing was seemingly out-of-competition (Dugal, 1990). However, it was not until September 1995 that the IOC and the European Community would agree to spend more than USD 2 million on the fight against doping by growth hormone injection, which had been around since the 1980s.

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8 Committee for the Development of Sport concerning doping.
9 Study of national sport legislation in Europe, Council of Europe.
10 Our emphasis.

1.2. Powers and limitations of the European Union in the fight against doping

In order to have an effective policy on such a complex issue, the European Union first had to come up with a precise definition of the aims of the policy it was intending to implement. This meant first of all deciding whether sport and athletes should be subject to specific regulations, before devising a clear strategy founded on the powers of the Union (cf. paragraph 1.2.6)

Rarely is enough time spent on the initial analysis. The various texts and studies of the European Union, Member States and sports bodies often begin with the assumption that a consensus exists on the issues raised by competitive sport. However, the values of sport are not as universal as people would have us believe. In reality, this unanimity is merely a façade, particularly as the criteria used are often meaningless and unenforceable. Before proposing the introduction or increase in tests and/or sanctions, the European Union has to do its homework and show some political courage by openly addressing the issues relating to sports management. Should doping be tackled? Who should do this and why? Adopting or proposing a regulation is never a neutral process, particularly at international level.

1.2.1. Why combat doping?

The expression 'the fight against doping' has already been interpreted in a variety of ways. Doping may not even be considered a problem in some sports, depending on how members of the sporting community perceive their sport. If we take the sporting event as it appears to exist in some Anglo-Saxon countries or in the United States, the rules of fair play do not seem fundamental and doping is ultimately only a means of enhancing performance and thus improving the 'spectator' aspect of the sport. Conversely, if we come at it from the point of view of competitive sport, where only the physical abilities of each athlete and his or her training should count, then doping negates this idea of natural competition. Therefore, the very idea of a fight against doping is questionable if we refuse point blank to be 'politically correct' and try to adopt a general approach to the issue.

Doping seems particularly hard to define. The definition given at the congress in Uriage-les-Bains in January 1963 considered doping to be 'the use of substances and any other available methods of artificially enhancing performance in a sporting event, or when preparing for it, in a way which violates sporting ethics and damages the physical and psychological health of the athlete or player'. Therefore, questions need to be asked about the cumulative nature of the conditions laid down. Artificially enhancing performance can be the result of substance abuse or new methods: should we treat technological advances such as high-tech swimsuits or vitamin supplements in the same way as products specifically intended for doping[11]? In short, where does doping begin? Perhaps we should look for the answer in the harm caused to sports ethics or the physical and psychological health of the athlete: everything then becomes a question of degrees, of subtle differences, to determine the thresholds and methods which constitute a deliberate attempt to cheat, eventually to the point of deliberately harming one's health.

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[11] Nevertheless, the adoption of the World Anti-Doping Code has allowed universal criteria to be adopted. A substance or method must satisfy two of the following three criteria to be included on the List: it has the potential to enhance or enhances sport performance; it represents an actual or potential health risk; its use violates the spirit of sport (cf. Part 1, 4.3 Criteria for including substances and methods on the Prohibited List, World Anti-Doping Code, 2009). It should be noted however that the last criterion has no legal reference, apart from a general reference in the World Anti-Doping Code (p. 14).

The first question we need to ask therefore is whether we need an anti-doping policy or policies. We cannot introduce a public policy with the sole aim of satisfying public expectation. In theory, the immediate reaction of the vast majority of European citizens would be to say that they were against doping. However, if we were to explain to them the difficulties and the costs of this type of policy compared with the results obtained, or if we were to examine the value system of Europeans when it comes to sports ethics, we would easily get radically different legislative proposals. Is it still the case that before contemplating any intervention, whatever form that intervention might take, the European Parliament must first **ask itself the question of why act**? The White Paper on Sport tries to outline the reasons for the fight against doping using a hierarchical structure: '*doping poses a threat to sport worldwide, including European sports. It undermines the principle of open and fair competition. It is a demotivating factor for sport in general and puts the professional under unreasonable pressure. It seriously affects the image of sport and poses a serious threat to individual health. At European level, the fight against doping must take into account both a law-enforcement and a health and prevention dimension*'. Does this criticism not ultimately target the development of top-level sport, regardless of the question of the fight against doping?

1.2.2. Sport in European politics: is the coverage (too) comprehensive?

The fight against doping is not new. National legislators have taken various approaches to try to combat doping. Similarly, at international level, it is not the absence of legislation which seems to pose a problem, but rather that it has been watered down, that it lacks consistency at times and above all that the principles enshrined are a hollow gesture because they cannot be enforced. The European Union only began to become interested in sport and in doping in particular relatively recently. Each Member State has a different way of dealing with the issue, depending on whether the government has responsibility for sport or whether it shares or delegates these powers with or to other bodies. Harmonisation does not seem to be on the agenda, nor is it desired by members of the sporting community, as the recent conflicts between the Consejo Superior de los Deportes in Spain and FIFA concerning racism and violence in football tend to suggest. This is just one of many examples. Community texts, while recognising the lack of competence of the European Union in this area, have made increasing references to sport since 1997 and the declaration annexed to the Treaty of Amsterdam emphasised '**the social significance of sport, in particular its role in forging identity and bringing people together**'. The main concern raised by the Helsinki Report on Sport (1999) was the risk of '**weakening its educational and social function**' by the overloading of sporting calendars, under the pressure of sponsors, giving rise to commercialisation encouraging the expansion of doping. While pointing out the risks for young people, the report notes how much sport seems to be an '**essential tool for social integration and education**'. At this point, doping was a threat to the underlying functions of sport, rather than a public health issue.

The Nice European Council on 7-9 December 2000 announced that its objectives included safeguarding existing sports structures and maintaining the **social function of sport**. It highlighted the role of sports federations, rather than Member States, in fostering the social, educational and cultural functions of sport, giving them the task of preserving 'the cohesion and ties of solidarity binding the practice of sports at every level, fair competition and both the moral and material interests and the physical integrity of those involved in the practice of sport, especially minors'. Doping was only mentioned in connection with the protection of young athletes. Above all, it was important not to upset sports federations keen to maintain their independence from governments and supranational organisations.

The Draft Treaty establishing a Constitution for Europe makes an explicit reference to sport, thereby demonstrating a certain consensus, at least among the authors of the Convention, not to integrate this activity as a fully-fledged competence, yet without dismissing it entirely. It is therefore through what the Draft Treaty called '*coordinating, complementary or supporting action*' that an attempt was made to intervene in sport while remaining under the umbrella of 'Education, vocational training, youth and sport'. Article III-282 covers sport, with specific objectives:

[…] The Union shall contribute to the promotion of European sporting issues, given the social and educational function of sport. […]

Union action shall be aimed at: g) developing the European dimension in sport, by promoting fairness in competitions and cooperation between sporting bodies and by protecting the physical and moral integrity of sportsmen and sportswomen, especially young sportsmen and sportswomen. […]

In order to contribute to the achievement of the objectives referred to in this Article:

a) European laws or framework laws shall establish incentive actions, excluding any harmonisation of the laws and regulations of the Member States. They shall be adopted after consultation of the Committee of the Regions and the Economic and Social Committee;

b) the Council of Ministers, on a proposal from the Commission, shall adopt recommendations.

The aim was to preserve the regulatory autonomy of the Member States and sports structures while allowing the European Union to provide limited support, focusing on the health of athletes without making an explicit reference to doping. The Treaty of Lisbon only does a kind of 'cut and paste' of the earlier provisions on sport in Article 2E and Article 149. The term 'doping' is absent from the Treaty.

1.2.3. Europe's intention to act: sport and Community law

The European Union often talks about wanting to combat doping in sport and has been at pains to emphasise the wide range of challenges linked with doping: challenges in terms of sport, media, politics, medicine and society[12]. The 2007 White Paper did not shed any real light on the action expected and the fundamental reasons for the EU's commitment to the fight against doping.
At this stage, it is not possible to identify any real hierarchy in the intention to act: the impact assessment accompanying the White Paper essentially recalls the role of sport in society and condemns doping as a 'threat to individual and public health, to the principle of open and equal competition, and to the image of sport'. However, like many international texts, the White Paper is not legally binding: it outlines a sort of common objective to be achieved in different ways.

- **Indirect action**

It is through other policies therefore that the EU can be induced to touch more or less directly on the issue of sport and doping, although it is harder to envisage a specific policy on doping coming under European jurisdiction[13].

[12] http://ec.europa.eu/sport/action_sports/dopage/what_doping_fr.html.
[13] http://www.europarl.europa.eu/facts/4_16_6_fr.htm.

The Member States have responded in a variety of ways: some, like France, have opted for state control, while others have been more liberal, leaving the task of solving the problem of doping, in purely sporting terms, to sports federations. Competence derives from the underlying reason and initial objective set.

If for example we believe that doping is predominantly a danger to public health, then the role of the government can prove vital and can be complemented by other public stakeholders[14].

However, if we only consider the ethical values of sport, then competence should remain with the sporting community; in other words, with federations. This raises the more general question of sport in the European Union: is it a private activity, or does it come under the laws of economics? Case law essentially provides us with the answer to this question.

Until 2006, it was traditional to present European case law on sport based on a distinction made by the CJEC between purely sporting rules, which in theory were excluded from any application of Community law, and those rules that might come under the economic provisions of the Treaty. The highly criticised Meca-Medina ruling of 18 July 2006[15], limited the very existence of this distinction. The Advocate General, Philippe Léger, observed that 'given the commercial and financial stakes which surround high-level sport' (…) 'it may be impossible for purely sporting rules, such as anti-doping rules, to possess no economic interest. However, that interest is purely secondary, in my opinion, and cannot prevent anti-doping rules from being purely sporting in character'. There is a deliberate attempt here to ignore the ruling of the Court of First Instance of 30 September 2004 which excluded the anti-doping regulation from Community competition law, considering it to be purely sporting in nature. The legal balance that seemed to have been established in case law was ruined by the CJEC decision. The Court held in fact that '*it is apparent that the mere fact that a rule is purely sporting in nature does not have the effect of removing from the scope of the Treaty the person engaging in the activity governed by that rule or the body which has laid it down*' and therefore, '*If the sporting activity in question falls within the scope of the Treaty, the conditions for engaging in it are then subject to all the obligations which result from the various provisions of the Treaty. It follows that the rules which govern that activity must satisfy the requirements of those provisions, which, in particular, seek to ensure freedom of movement for workers, freedom of establishment, freedom to provide services, or competition'*. The sporting distinction alone was no longer grounds for automatic exclusion from the scope of Community law. The Court held that a case could be made for a possible infringement of competition law or the freedom of movement (paragraphs 29-30). Conversely, justification for the fight against doping had to lie in the economic domain (cf. *infra* regulatory model n° 3), a distinction deriving from the very origins of the European Union.

1.2.4. The fight against doping and professional sport: is criminalisation necessary?

This raises the question of the nature of the fight against doping: should we tackle doping because it undermines competition between athletes and companies involved in sport and sporting events, and by extension between professional bodies (with all that this implies in terms

[14] In his report to the French National Assembly, the French MP Mr Julliot pointed out that the fight against doping could not be reduced to its disciplinary dimension, which is why the draft confirmed the central role of the government in terms of prevention, the protection of athletes' health and the implementation of public research programmes', AN Report n° 2181 on the fight against doping and the protection of athletes' health, Committee on cultural affairs, March 2005, p. 21.

[15] Meca-Medina: a step backwards for the European Sports Model and the Specificity of Sport? http://www.uefa.com/MultimediaFiles/Download/uefa/KeyTopics/480392_DOWNLOAD.pdf.

of share prices, sponsors, and so on)[16], or should the anti-doping campaign ultimately be conducted in the interests of ethics or public health? This brings us back to the central question that the European Parliament must ask itself: namely, the reason for intervention. In 1967, the Prince of Mérode (IOC) established three basic principles for the fight against doping: the defence of sports ethics, the protection of athletes' health and equal opportunities for all. Where do we stand today? For Lapouble, the universal nature of the sporting rule, although justified at amateur level, is less easy to justify in professional sport, where the sporting challenge is a support for economic issues[17]. The European Commission itself takes account of the evolution of professional sport, which has led to new, less individual and more organised forms of doping: '*One major cause of the spread of doping is the over-commercialisation of sport, in particular the recent explosion of television rights associated with large sponsoring contracts. This commercialisation and the economic and financial stakes involved have led to a proliferation of sports competitions and have curtailed athletes' recovery times, a factor which also shortens the professional's sporting life. Besides, there are the perverse effects of contracts between certain sports associations and their sponsors, with awards being granted on the basis of results obtained. The athlete's general environment, from the coach or doctor to the team leader and family circle, may put additional pressure on the athlete*'[18].

Doping evidently represents a violation of sports ethics, but is it a violation of laws or rights? For many legal practitioners, a criminal offence is not always committed, and the use of doping products requires the prior commission of other violations which must be sanctioned under national legislation[19], such as forgery, drug dealing and possession. While criminalisation seems justified for the athlete's entourage if they facilitate or encourage doping, criminal sanctions for the athlete seem less effective. In effect, liability varies according to whether the athlete was fully aware of using doping products. Introduced into early anti-doping legislation in the 1960s, for example in France and Belgium, criminalisation has not delivered the results expected, and it is without doubt disciplinary sanctions which are the most effective, or at least the most dissuasive. Nevertheless, we are seeing a form of criminalisation creep back into national legislation (the Laporte bill in France and in Germany, Sweden, etc.), designed to try to harmonise court sanctions rather than leave the task of enforcing a somewhat questionable sanction policy to sports federations. Some legislation specifically targets doping, while other legislation simply refers to illegal substances, defining both drug abuse and doping as the consumption of a banned product (cf. map *infra* produced from Council of Europe sources current as of March 2008, which perfectly illustrates this diversity).

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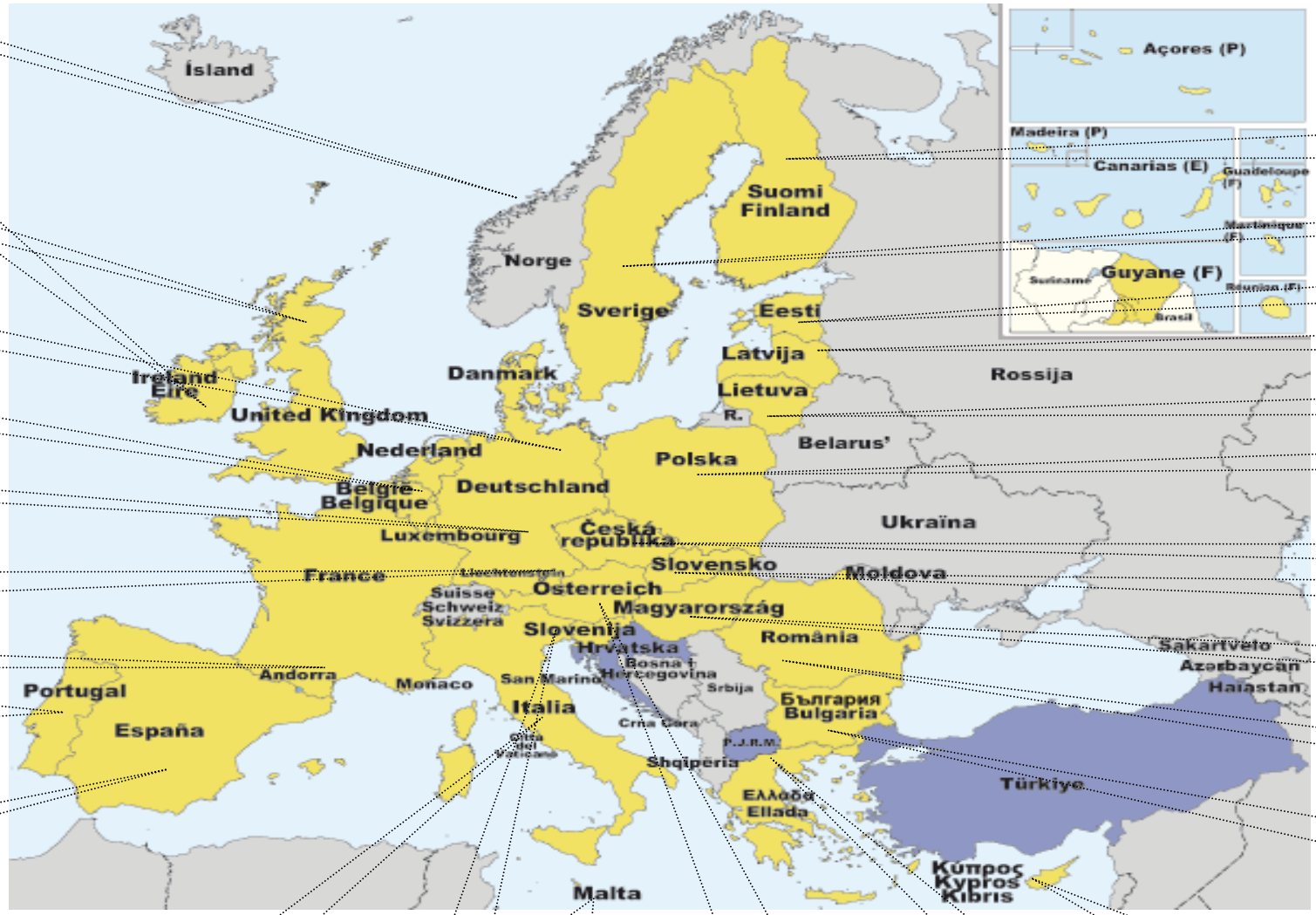
[16] However, it is possible to qualify this competition, since 'unlike the traditional market, athletes do not try to eliminate their competitors, nor the uncertainty as to the outcome of their encounter' (Bombois T., De l'exception à la valorisation sportive. L'ordre juridique sportif aux prises avec le droit communautaire et étatique, in Depré S., Le sport dopé par l'Etat vers un droit public du sport?, Bruylant, CECA, n° 28, 2006.

[17] Lapouble J-C., *Droit du sport*, L.G.D.J., Systèmes, Droit public, 1999.

[18] http://europa.eu/scadplus/leg/fr/lvb/l35003.htm.

[19] Bellaaroussi F., Réflexions sur les rapports entre le droit pénal et le sport: une question renouvelée, *G.P.*, n° 255, 11 September 2004.

Anti-doping legislation in EU Member States (Council of Europe, March 2008)



1.2.5. European interventionism as an incentive

The concept of doping evidently relates directly to sport, although its legal repercussions extend way beyond this narrow context. Behind the affirmation of a clean sport, collective values soon emerge, together with a certain political vision of community life. For the European Union, the fact that it has an active role in this issue allows it both to confirm the existence of a community of European values facing (or in partnership with) the rest of the world and to stress its unifying role within the Member States. Sport and its control is still largely the affair of the Member States, which do not necessarily want to see their decision-making autonomy challenged in the same way as sports federations. To be effective, this kind of public policy needs the support of the majority, rather than the unilateral promulgation of new laws by the European Union.

If the European Union wants to impact on this issue, it must define sport and sporting events so that a consensus emerges. The definition adopted will give rise to a whole series of more or less binding legal procedures. Before deciding on how to combat doping, European institutions must determine and establish a precise definition of the 'citizen athlete' or 'athlete citizen' (see models n° 2 and 1 *infra*). The two terms are not at all the same, and will result in a radically different regulation based on two regulatory models for public freedoms.

Parliament regularly warns about the dangers of doping in the Union, and urges the Commission to aim for better coordination in order to win the fight against doping. Note for example Resolution of 17 December 1998 on urgent measures to be taken against doping in sport, or even more recently and in the same spirit, the Resolution of 8 May 2008 on the White Paper on Sport. In the latter, the European Parliament takes a more general approach to sport, but sends out a specific message on doping, considered as one of the 'new threats and challenges'. This parliamentary resolution argues that doping 'undermines the principle of transparent and fair competition and puts sportsmen and sportswomen under unreasonable pressure' and calls for coordinated anti-doping efforts, particularly by the WADA, Unesco and the Council of Europe.

Members of Parliament have expressed a number of wishes, although there are few legal constraints on Member States or the European Commission. Naturally Parliament can use strong language such as 'demanding' or 'urging' the Member States, but in reality, unanimous agreement and support for the anti-doping policy are essential. It is worth noting here that a certain ambiguity exists surrounding the harmonisation of national legislation: on the one hand, Parliament '*requests Member States to agree on a common legislative approach towards doping in order to ensure similar legal treatment in all Member States and to define common positions in relation to WADA, Unesco and the Council of Europe'* and on the other, the Treaty of Lisbon states that incentive measures may be adopted '*excluding any harmonisation of the laws and regulations of the Member States'* (Art. 149)[20]. It is difficult, then, to understand a European policy which on the one hand advocates respect for the independence of sports bodies and organisations and on the other calls for greater coordination through state intervention.

[20] Article 2A of the Treaty also states that: 'In certain areas and in the conditions laid down by the Constitution, the Union will have competence to carry out actions to support, coordinate or supplement the actions of the Member States, without thereby superseding their competence in these areas.
Legally binding acts adopted by the Union in this connection may not entail harmonisation of Member States' laws or regulations'.

From a legal point of view, it is hard to see how doping could come under an exclusive policy. This scourge, as European texts regularly call it, can only be contained, if everyone is willing, through an incentives policy accompanied by a parallel action policy. The Coubertin Action Plan which emerged from the White Paper on Sport recommends training courses organised at European level to facilitate collaboration between the various bodies in charge of the anti-doping campaign (government departments, WADA, INTERPOL, etc.). Similarly, point 5 of the plan proposes assigning the Commission the role of ombudsman, acting as the centre point for the numerous stakeholders involved. This role is both more realistic and dynamic than the peremptory affirmation of exclusive competence of the European Union.

Once it comes into force, the Treaty of Lisbon may also be a driving force to the extent that it shares competences, not in sport, but in public health and research. On this basis, initiatives might also be envisaged to protect athletes both as ordinary citizens and as representing collective values. The Treaty also allows efforts to be stepped up in terms of research into doping techniques. While education remains a key element of the anti-doping campaign, this is only a supporting competence, in the same way as sport.

Therefore, the main difficulty lies in the piecemeal approach of the anti-doping campaign, which can sometimes seem too thinly spread, lacking overall coherence due to the sector-based interventionism. In view of the multitude of competent authorities and fragmented laws, there is an urgent need for clarification: clarification of the role of the European Union, particularly in terms of the application of Community law to sport, and a more tangible definition of the characteristics of doping (a purely sporting nature or an economic element?) These are the actions that need to be taken.

The European Union must convince other members of the sporting community that it has sufficient powers and legitimacy to intervene in this social issue. There is no question of this competence when it comes to setting rules on the free movement of people, services and capital. It can also be justified on the grounds of public health or improving the health and safety of workers, bearing in mind that in both cases, the question of the specificity of sport remains key. Policies linked with education and citizenship are also a potential area of intervention. Should one of these paths be prioritised, or a combination of all three? The answer to this question is also important.

The European Union has two main categories of instrument at its disposal to achieve these objectives. The first category consists of developing various legislative texts to be imposed on all Member States while respecting the existing body of Community law. Adding to the legislative domain first requires a definition of the real issues and objectives of this anti-doping campaign, particularly as the proliferation of texts has not yielded any convincing results.

The second type of instrument consists of, as the committee often calls it, the ‘mobilisation of Community programmes which can support positive anti-doping measures at European level’. This seemingly more modest strategy might nevertheless prove more effective if supported by partners who share the Community’s objectives. The key here is to emphasise the role of the Union as coordinator, allowing it to take centre-stage. In the context provided by the Treaty of Lisbon, this supporting competence can in the long term deliver more visible results. The

actions carried out by the EU are already wide-ranging[21], so it would have to be ascertained that they were being prepared and implemented rationally compared with what already exists.

Pending the ratification of the Treaty of Lisbon, the European Parliament would like the Commission to better integrate sport into its existing policies. This emerged from the committees ahead of the adoption of the Resolution of 8 May 2008 on the White Paper on Sport: there is a real sense of wanting to anticipate the entry into force of the Treaty, particularly with regard to doping. Therefore, calls for an action plan accompanied by credits would again mean introducing clear and shared objectives based on the willingness of the Member States to embrace the very principle of the fight against doping. The Commission is now therefore under a certain amount of pressure from Parliament and must as a minimum address this issue by 2011 (effective date of the Treaty) or 2012 (London Olympic Games) in order to guarantee a form of European effectiveness in this area. The outcome of this process will materialise through the implementation of an intervention model with different objectives and consequences.

1.2.6. Emergence of legislative interventionism models in the fight against doping

The organisation of an anti-doping campaign under the aegis or impetus of the European Union therefore assumes that the European institutions have adopted a clear legal position on the classification of sport at competition level and on the functions of a harmonised policy.

There are three main models of legislative interventionism on this issue (cf. table n° 1 below). Often, without taking the time to define a precise policy, we find a series of texts based on these different models, or even haphazardly combining elements of all of them.

To be able to achieve concrete and measurable results, it is essential that we include all of the measures indicated in one of these models to avoid any risk of diluting the efforts undertaken, but also to minimise possible interference between texts and bodies linked more or less directly with sport. The classic example of the 1995 Bosman case and its subsequent developments is telling of this difficulty in tackling the sport issue with a specific regulation.

The fight against doping is first and foremost a choice of society (not to mention an aspect of a social plan) which must respect the fundamental freedoms championed by all Member States.

[21] '*intensifying efforts to identify doping substances, detection methods, the consequences of doping for health and doping as a socio-economic phenomenon; mobilising education, vocational training and youth programmes in the service of information and training, awareness-raising and prevention programmes; making full use of police and judicial cooperation programmes; reinforcing drugs information; developing measures in the field of public health policy*', http://europa.eu/scadplus/leg/fr/lvb/l35003.htm.

Table 1: Possible regulatory models in the fight against doping

	Model n° 1	Model n° 2	Model n° 3
Purpose	Public health	Sports ethics	Business and entertainment
Result	Athlete is an ordinary citizen subject to common law	Athlete is a not an ordinary citizen (fewer rights and freedoms and more control)	Athlete is an economic operator governed by economic law
Intended recipients of the law	Entire population	The athlete and his management	All economic operators in sport
Consequences	Rejection of the athlete's status	Possible distinction between top-level, professional and amateur athletes	Only professional athletes taken into consideration Possible distinction between paid and independent athletes
Ministerial responsibility	Ministry in charge of health	Ministry in charge of sport	Ministry in charge of trade
Testing	Before release	On the athlete, post-release (before, during and after competitions)	Only during competitions
Aim of testing	Research into the health risks of the product or method	Research into absorption and use of the performance-enhancing product or method	
Intended effects of testing	Protection of the individual and the community	Fair play	Respect for fair competition
Method	Preventive: marketing authorisation	Repressive: disciplinary sanction	Liberal: control limited to absolute minimum
Philosophy behind the law	Principle of precaution	Principle of education	Principle of freedom
Competences of the EU	Supporting competence	Supporting competence	Exclusive competence
EU initiatives	Alternative	Support for best practice	Laws imposed
Structures envisaged	Health and research 'authority'	Ethics and education 'authority'	Competition regulator
Cost	Identical	Higher	Lower

- **Model n° 1** approaches the issue of doping from the public health angle. This position is perfectly rational (it is similar to the one adopted by France, which has inserted several of these texts into the French Public Health Code[22]) and could deliver tangible results, but ultimately refuses to grant any exemption for athletes. The laws made, the controls put in place and the organisations created are in fact designed to protect society rather than the individual. The doping effects of products and methods have been researched and are known, but the authorities (particularly in Europe) leave it to sports bodies to regulate and monitor the practices of their 'members'. The corpus of legislation does not prevent medical research, but asks it to make public the potential effects of products and methods on sport. By doing so, pharmaceutical companies for example may be required to carry out tests and to publish the results in terms of health and indeed performance.

This type of regulation does not prevent the European Union from supporting certain countries, federations or international organisations in their anti-doping policies derived from model n° 2.

- **Model n° 2** is the one that tackles the issue of doping most directly, although it does so solely for the sake of sports ethics. In all fairness, the wide variety of doping practices makes it impossible to conceive a single regulation that would cover all disciplines. At the very most we might envisage, as the World Anti-Doping Code has done, a general framework establishing the principal attitudes and spirit of this kind of policy. An effective anti-doping regulation assumes that there is a precise definition of the sacrosanct values of sport, as well as a specific legal status for sportsmen and women. In effect, it is a question of drafting a regulation which is specific to a particular group, a 'community', which by definition is on the margins of society. The use or even possession of over-the-counter products is prohibited, not only for sports participants, but also for their entourage. Controls are designed to disqualify cheats and not to protect the health of the individual, because it is conceivable that a doping product may not pose a health risk. One day the question will need to be asked of whether altitude training is a form of doping. The principle of respect for equality between participants in a competition implies that everyone has the same means and techniques. Since this is inherently unrealistic, any attempt to completely eliminate the subversion of sports ethics will always fail, although this does not mean that it should not be undertaken.

- **Model n° 3** is the one that dovetails the most neatly with the traditional powers of the European Union, and the one which is the cheapest to implement, although it deliberately moves away from the consensus on the subject. Sport is treated as a normal economic activity in a liberal society. The central rule is respect for freedom and competition. The type of regulation that might be envisaged here comes under 'common law', the athlete being a simple market operator. Rules could be introduced modelled along the lines of labour laws and 'employee' protection; in other words, individuals are prevented from carrying out an activity if the products or techniques used represent a risk to their health and integrity or to those of others. Alcohol tests for motor sport might be considered, although these tests are no more legitimate than a systematic search of public transport workers.
As usual, we need to strike the right balance between the various interests to be protected.

[22] http://www.caat.online.fr/loi/dopage.htm.

1.2.7. Fight against doping and respect for freedoms

Whatever the legislative model chosen, the organisation of an anti-doping system is contrary to respect for individual freedoms. Consequently, all laws and controls must be able to fit into a model of society accepted and recognised by the majority. The guarantee of a 'clean' sport cannot result in members of the sporting community automatically coming under suspicion. In any case, the quest for performance is not exclusive to athletes, nor even to the entertainment world. To be legally acceptable, the infringement of liberties must be strictly proportionate to the objectives sought, which is not currently the case unless we can establish the specificity of sport[23]. In a democratic regime, the public authority cannot be imposed

1.2.8. A clear position on the criminalisation of the fight against doping

The criminalisation of the fight against doping[24] must be examined based on the three possible legislative models. Unless it can justify once and for all the specificity of sport, the European Union must propose a set of sanctions free from any criminal implications. The harmonisation of national policies is no doubt conceivable, particularly to coordinate police efforts and to establish tiered sanctions which reflect the philosophy of the public policies implemented.

- For model n° 1, violations must be defined according to public health and the various ways in which the health of others might be endangered. In this particular instance, health professionals, laboratories and some companies might be concerned, but not because of the effects on sporting results, particularly for those who supply doping products to athletes without their knowledge.

- For model n° 2, the aim is to ensure respect for the spirit of sport and to combat any form of cheating. There is no reason to introduce criminal sanctions for athletes. Only 'disciplinary' sanctions banning offenders from competing are possible. For a real deterrent, these might stretch as far as a lifetime ban. However, criminal sanctions might be conceivable for the athlete's entourage, particularly if the athlete is a minor or an employee.

- For model n° 3, specific criminal sanctions are not justified. The rules of market economics are enough, given that the specificity of sport has no place here (without solid evidence to the contrary).

[23] On this point, see the article by Aguet C., 'Un an après l'entrée en vigueur du code de l'agence mondiale antidopage – bilan du point de vue des athlètes' (http:/www.weblaw.ch, Jusletter 20. February 2006).

[24] See in particular Bellaaroussi F., 'Réflexions sur les rapports entre le droit pénal et le sport: une question renouvelée', *G.P.*, n° 255, 11 September 2004.

2 Biological aspects of doping: methods, detection and risks

Most countries have recognised or even ratified the WADA Code[25], simultaneously undertaking to adopt the definition of doping proposed by the WADA[26]. This has the advantage of establishing a certain amount of harmonisation, even though this definition is still somewhat vague and ambiguous. Doping is defined as one or more violations of the anti-doping rules set out in Articles 2.1 to 2.8 of the Code, namely:

1. The presence of a prohibited substance or its metabolites or markers in an athlete's sample.
2. Use or attempted use of a prohibited substance or a prohibited method.
3. Refusing or failing to submit to sample collection.
4. Violation of applicable requirements regarding athlete availability for out-of-competition testing.
5. Tampering or attempting to tamper with any part of doping control.
6. Possession of prohibited substances and methods.
7. Trafficking or attempted trafficking in any prohibited substance or prohibited method.
8. Administration or attempted administration of a prohibited substance or prohibited method.

Even though this code has been adopted by a significant number of countries (80 signatories of the Unesco Convention to date) and international federations, the fact remains that each government and each federation has sovereign authority, which explains the different methods of enforcement, depending on the sport and the national or international nature of the competition.

To establish a global public policy at European level, it is vital that the Union gauge the full extent of this ambiguous definition of doping. This requires a list of prohibited substances and methods to be drawn up and kept permanently up-to-date. While the concept of detection is technically feasible, it is in practice always destined to fail. Finally, a review is needed of the way in which doping products and methods can present a risk to individuals' health.

2.1. List of WADA prohibited or restricted substances and methods for 2008

In the interests of consistency, a new Prohibited List is published each year, regardless of whether changes have been made. WADA is committed to making the latest Prohibited List available on its website at all times.

2.1.1. Fundamental principles:

The Prohibited List identifies those prohibited substances and prohibited methods which are prohibited at all times (both in-competition and out-of-competition) because of their potential to enhance performance in future competitions or their masking potential, and those substances and methods which are prohibited in-competition only. The Prohibited List may be expanded by WADA for a particular sport. Prohibited substances or prohibited methods may be included in the Prohibited List by general category (e.g. anabolic agents for example) or by specific reference to a particular substance or method.

[25] http://www.wada-ama.org/fr/dynamic.ch2?pageCategory.id=250
[26] http://www.wada-ama.org

A substance is considered for inclusion on the Prohibited List if the substance is a masking agent or meets **two of the following three criteria**: 1) it has the potential to enhance or **enhances sport performance**; 2) it represents a **potential or actual health risk**; or 3) it is contrary to **the spirit of sport**. None of the three criteria alone is a sufficient basis for adding a substance to the Prohibited List. Using the potential to enhance performance as the sole criteria would include, for example, physical and mental training, red meat, carbohydrate loading and training at altitude. Risk of harm would include smoking. Requiring all three criteria would also be unsatisfactory. For example, the use of genetic transfer technology to dramatically enhance sport performance should be prohibited as contrary to the spirit of sport, even if it is not harmful.

There is only one Prohibited List, which includes substances prohibited at all times, such as masking agents and those substances which, when used in training, may have long-term performance-enhancing effects, such as anabolics. All substances and methods on the Prohibited List are prohibited in-competition.

The out-of-competition 'use' (Article 2.2) of a substance which is only prohibited in-competition does not constitute an anti-doping rule violation, unless an abnormal test result implying the presence of this substance or its metabolites is declared in relation to a sample taken in-competition (Article 2.1).

There is only one document called the 'Prohibited List'. WADA may add additional substances or methods to the Prohibited List for particular sports (e.g. the inclusion of beta-blockers for shooting), but this will also be reflected on the single Prohibited List. Individual sports are not permitted to seek exemption from the basic list of prohibited substances (e.g. eliminating anabolics from the Prohibited List for 'mind sports').

The premise of this decision is that there are certain basic doping agents which anyone who chooses to call himself or herself an athlete should not take.

Each international federation must ensure, for international-level athletes or any other athlete who is entered in an international event, that a process is in place whereby athletes with documented medical conditions requiring the use of a prohibited substance or method may request a therapeutic use exemption.

2.1.2. List of substances

The list of substances is updated regularly as new molecules or methods appear. This includes:

2.1.2.1. Substances and methods prohibited at all times (in- and out-of-competition)

2.1.2.1.a. Prohibited substances

Exogenous and endogenous anabolic androgenic steroids (AAS) and other anabolic agents: these increase muscle mass (anabolic effect). Testosterone and its synthetic derivatives are a major group in this category.

Hormones and related substances: acting as physiological messengers, these use the body's self-regulating mechanism to maintain the hormonal balance (for example, GH or growth hormone, HCG or human chorionic gonadotropin, insulin-like growth factors such as IGF1, EPO, or erythropoietin, etc.). GH, HCG, IGF1 are used for their anabolic effects. EPO stimulates red blood cell production and therefore increases oxygen transfer.

Beta-2 agonists: taken orally in high doses, these are liable to have anabolic effects. Therefore, apart from one or two exceptions, they are all strictly prohibited (cf. restricted substances).

Hormone antagonists and modulators: these are mainly agents or medicines which modify the impregnation of sex hormones and can even increase masculinity.

Diuretics and other masking agents: diuretics increase urinary flow rate and lead to rapid weight loss. They are mainly used in weight category sports. They also encourage the elimination of doping products in urine and are a way of masking the use of doping substances.

2.1.2.1.b. Prohibited methods:

Enhancement of oxygen transfer: this class includes blood doping and the use of any substance enhancing the transport of oxygen (e.g. perfluorochemicals, modified haemoglobin products).

Chemical and physical manipulation: urine alteration and/or substitution, intravenous infusion and any attempt to tamper with samples.

Gene doping: this is defined as the non-therapeutic use of genes, genetic elements and/or genetically modified cells having the capacity to enhance athletic performance.

2.1.2.2. Substances and methods prohibited in competition

In addition to all of the categories above, the following are prohibited in competition:

Stimulants: these act on the central nervous system and create a state of alertness (e.g. amphetamine).

Narcotics: these cover up peripheral warning signs such as pain and have a central neurological action (e.g. heroin, morphine and their derivatives).

Cannabinoids (e.g. hashish, marijuana). These substances are not prohibited by all federations.

Glucocorticosteroids: natural (Cortisol) or synthetic, these reduce pain and inflammation and are euphoriant. They are prohibited in general (when administered orally, rectally, intravenously and intramuscularly). They are authorised locally in the form of eardrops, nasal sprays, drops, ointments and inhalations and when administered anally. Conversely, their use in the form of local and intraarticular injections may require prior notification from a doctor, where necessary.

2.1.2.3. Substances prohibited in certain sports:

Alcohol:

Alcohol (ethanol) is prohibited in-competition only, in the following sports. Detection will be conducted by analysis of breath and/or blood. The doping violation threshold (haematological values) for each federation is shown in parenthesis.

- Aeronautics (FAI) (0.20 g/l)
- Automobile (FIA) (0.10 g/l)
- Boules (IPC bowls) (0.10 g/l)
- Karate (WKF) (0.10 g/l)
- Motorcycling (FIM) (0.10 g/l)
- Powerboating (UIM) (0.30 g/l)
- Modern pentathlon (UIPM) (0.10 g/l) for disciplines involving shooting
- Archery (FITA, IPC) (0.10 g/l)

Beta-blockers: these reduce heart rate and stress.

2.1.2.4. Specified substances

Some substances (such as some inhaled beta-2 agonists, cannabinoids, alcohol, corticoids, etc.) cannot be sanctioned if the 'athlete can establish that the use of such a specified substance was not intended to enhance sport performance…'.

2.2. Detection?

Detection problems are far from being solved. Direct detection is difficult, expensive and relatively ineffective. Additional methods such as deterrents and indirect detection have so far failed to deliver the results expected.

2.2.1. Direct detection:

Anti-doping control may be required by various national bodies (ministries, sports federations) or international organisations (sports federations, WADA). It is based on the analysis of bodily specimens such as urine, blood, saliva or even hair, where illegal substances can remain for a long time and remain detectable several weeks or months after they were taken. Specimens are only analysed in WADA-accredited or approved laboratories.

Samples are analysed in order to screen for prohibited substances and methods on the Prohibited List and any other substance for which screening is required by WADA in accordance with Article 4.5 of the Code, or to help an anti-doping organisation **establish the profile of the relevant parameters** in urine, blood or any other matrix of the athlete, including DNA or gene profile, for anti-doping purposes. Specimens are kept for several years.

The scientific progress of detection is undeniable thanks to the development of cutting-edge techniques (using chromatography, mass spectrometry and radioisotopes such as HPLC, LCMS-MS and IRMS), and it is technically possible to detect all recognised doping substances. For Professors Rieu (official government physician for the AFLD[27]) and Dine (Institut Biotechnologique de Troyes), the future of detection lies in the field of metabonomics and proteomics, molecular biology techniques which are essential for detecting new molecules and gene doping.

We should emphasise the interest in new techniques such as IRMS, which allows highly suspect profiles to be identified without proving the nature of the illegal product used. For example, IRMS can reveal the presence of anabolic steroids, without it being possible to identify the product itself. The result alone is enough to allow the competent authorities to suspect the athlete and open an investigation.

This encouraging news cannot hide the fact that detection is extremely difficult and only partially effective, for a number of reasons.

[27] French Anti-Doping Agency

By nature, the anti-doping campaign lags behind athletes who take drugs.

Obviously, only those categories of substances or methods which have been researched can be detected.

The results are still questionable because they carry the risk of error: false positives or false negatives.

False positives: the screening of testosterone doping based on the ratio of **testosterone to epitestosterone** (an isomer of testosterone) has caused accredited laboratories numerous problems for years, some subjects having naturally high levels of testosterone without any exogenous intake. The use of new dosage techniques, particularly those based on IRMS, have allowed this risk to be considerably reduced.

False negatives: some products have already been eliminated by the time the test is carried out, or are masked by taking other products, or are not researched, either because the research techniques are so expensive that they are not systematic, or because the doping method is so new that little is known about its detection, or else because this remains technically difficult.

Athletes have been quick to learn how to circumvent the system.

Today, doping in sport has reached a level of sophistication where athletes can take drugs either during competitions or training, or all year round.

2.2.2. Indirect detection:

It has been suggested that **indirect methods** should be developed both to improve awareness and the effectiveness of detection and to act as a deterrent. The aim is to test for markers in a biological specimen, since these vary significantly in the presence of doping.

For example, to detect any exogenous GH doping, biological markers could be measured which respond to the administration of this product, such as IGF-1 growth factors or serum markers of bone or connective tissue remodelling. The different markers are increased in response to GH administration with visible effects for several days or even weeks in some cases.

The indirect method for detecting any exogenous EPO doping consists of measuring the changes in haematological parameters caused by EPO doping: haemoglobin, reticulocyte rate, EPO serum concentration, etc. Some of these parameters can be disrupted for up to four weeks after the use of recombinant EPO.

More recently, the blood passport based on longitudinal supervision of haematological and biochemical markers was introduced by the French Ministry for Youth and Sport. This was embraced by the International Cycling Union (UCI). It is therefore only applied in cycling. From a medical point of view, this type of biological supervision must also indicate the biological anomalies associated with pathologies, regardless of whether these result from doping-related manipulation. Using the profiles created, the individual limits for each cyclist above which doping is suspected can be determined.

Professional cyclists covered by the passport (more than 800) belong to the target group of the best cyclists across all cycling disciplines, as well as those cyclists who the authorities believe should be monitored. Each cyclist must undergo:

- 12 blood tests, at least 10 of which are out-of-competition,

- four urine tests, three of which are out-of-competition,

- in-competition urine and blood tests,

- other out-of-competition testing, required as part of the personal testing programme or individual supervision.

In total, no fewer than 7000 to 8000 blood samples must be collected. The analysis and interpretation of the results must be handled by a group of international experts.

It looks as though this has been implemented too hastily. The organisation, method, pre-analysis, techniques introduced by laboratories, kits used, protocols and execution were not addressed at the Paris Summit on 22 and 23 October 2007.

'Ownership' of the results is still under discussion between the UCI, WADA, national federations and other bodies concerned. Nothing has been officially decided yet in terms of what approach to take and what sanctions to apply in the event of an abnormal biological profile.

Finally, whether direct or indirect detection methods are used, it is important to underline the considerable cost of their introduction and the underlying ethical problem. On the one hand, collecting a blood sample implies a form of physical assault, while being asked to provide a urine sample is a form of psychological attack (the subject must urinate naked in a special room in front of two officials). If doping is prohibited for ethical reasons, could it not be argued that an athlete's obligation to submit to anti-doping control is an attack on his or her freedom? The same applies for ADAMS (Anti-Doping Administration & Management System), which allows athletes to be traced from one day to the next. A debate has formed around the question of whether the new anti-doping policy destroys civil liberties[28].

2.3. Current and future doping methods

Sources of information about the existence of doping and doping practices among sportsmen and women are very diverse and scattered. They are no less interesting for that reason.

2.3.1. Current methods (Guinot, 2007)

Data exists from cross-disciplinary studies of teenage and young adult populations subject to particular exposure, from doping controls, customs and police seizures reported in the media and occasional cases of 'repentant' athletes, from medical publications relating complications (often severe) linked to the administration of doping products or methods, and from qualitative sociology interviews with sportsmen and women who have used performance-enhancing drugs.

If we look at the official data from the results of doping controls, some of which are given in this document (section 3.2), it would appear that the most widely used substances are currently anabolic steroids, minor stimulants (such as caffeine, which has been taken off the

[28] The new World Anti-Doping Code, reproduced by the 2005 UNESCO Convention, imposes certain obligations on athletes in signatory countries:
- therapeutic use exemption required to take a product on the Prohibited List;
- must be open from 10 a.m. onwards to officials instructed to collect blood and urine samples;
- athletes required to go the Court of Arbitration for Sport (CAS) if they wish to appeal against the sanctions imposed by a national or international federation.

list of banned substances) and cannabis, in particularly small amounts. We have every reason to believe that this is not the case at all. Here, examining legal sources and customs seizures is of particular value in that some of them confirm the scientific rationale behind the doping techniques used. Customs and police seizures in professional cycling (Festina affair during the 1998 Tour de France, police raid on cyclists' hotels during the Giro 2000, Rumsas affair in 2002, Cofidis affair in 2004, the 'Operation Puerto' affair in 2006) have revealed the evolution and combination of the classes of drugs used by these sportsmen and women, sometimes even before the drugs become commercially available. The revelations of some cyclists during the ensuing trials have confirmed the size and frequency of the doses used. For example, we could mention the 37 substances found in the boot of the car driven by the wife of the Lithuanian cyclist (*L'Equipe* of 12/09/2002), which contained, among other things, hormone derivatives (growth hormone, insulin, testosterone, glucocorticoids), stimulants, vasodilators, drip equipment and used syringes, a toxicological analysis of which would later reveal traces of recombinant human erythropoietin (rHuEPO).

Though they do not enable us to conclude that these practices are widespread in all top-level sport, these cases show:

- that there is a mismatch between the substances usually detected during doping controls and those actually used,
- that because some of these drugs are not even produced any longer (most anabolic steroids) or are only for hospital use, they can only be used if there are **clandestine and illegal sources of manufacture and/or supply**,
- that because of the pharmacological properties of these substances, they are used not only to enhance performance but also to aid recovery or to combat certain side effects,
- that because of the complexity and difficulty of handling some drugs, their use and administration cannot be performed without **input from the medical and scientific world**, which has essential physiological and pharmacological knowledge.

In the final analysis, it seems that the products have not changed much over the past 15 or so years: testosterone, used for several decades, and GH are still widely used. However, it should be pointed out that using EPO, in all its forms, is increasingly popular for one important reason: it is at present the only substance that on its own improves performance (endurance) in the absence of any associated training. Current developments in doping methods are very much about methods of administration, which are becoming increasingly accessible and 'comfortable' (subcutaneous injections, or even gels, microdoses, etc.).

2.3.2. Future methods

In the next five to 10 years, we can predict not the appearance, but rather the development of new methods from existing ones, in particular those using growth factors or based on genetic manipulation.

2.3.2.1. Growth factors (Creany and Hamilton, 2008)

This method has already been used for therapeutic purposes for some years in a number of countries (Spain, Portugal, Italy, Brazil, etc.) to accelerate the healing of tissues damaged by injury or surgery and to provide a faster recovery. It is relatively cheap and simple because it uses the blood of the individual being treated. After the centrifugation of a small amount of blood (30 to 60 ml), the various components are separated and only the plasma and platelets are kept. These are very rich in growth factors: proteins that regulate the multiplication and differentiation of cells. There are different types of factor that naturally participate in the healing process by stimulating the formation of new cells and then by supervising their specialisation depending on the type of tissue they are to be incorporated into: skin, muscle,

tendon, ligaments, etc. For greater effectiveness, the platelets can be activated by adding calcium. This preparation based on growth factors can be applied during surgery (just before the skin is stitched up again). It has proved its worth in oral surgery and in heart surgery. Its initial results in sports trauma have been fairly spectacular (cyclist Joseba Beloki, footballers Samuel Eto'o (FC Barcelona) and Donato (Deportivo La Coruña), etc.). The results of a study published by Spanish doctor Mikel Sànchez (2007) and his team, a pioneer in the use of this technique, show that sportsmen and women on whom it was used resumed training more quickly than the control group. Obviously, the authors stress that other scientific studies of larger populations are necessary. Many medical teams are interested, of course, and are even considering its use for more common injuries that do not require surgical intervention (strains, tears, etc.).

How does this technique fit in with the Anti-Doping Code? On the one hand, the World Anti-Doping Code prohibits any manipulation of the blood. On the other, this technique already in use will certainly become commonplace, and no dubious or illicit substances are added to the individual's blood. Its therapeutic value is undeniable because it means an injured sportsman or woman can quickly 'get back on their feet' (which is not in itself a reprehensible objective). Consequently, one might think that an exception could be made for strictly therapeutic use. However, we should certainly guard against its misuse, such as, for example, the use of this method in people who are not injured, with the aim of making them 'super-athletes' with 'super-tendons or ligaments'.

This is a real dilemma: it is of course a pity to deprive oneself of a treatment technique that is both simple and safe and that limits the risk of relapses. But it opens the door for doping in the guise of treatment… or is that already the case?

2.3.2.2. Gene doping

We should point out that its effectiveness has not been demonstrated in humans because ethics and the doping ban make any scientific study in humans impossible. Because of the highly technical process it would involve, it would probably be very costly to use.

Despite these reservations, it nevertheless seems highly likely that gene doping is capable of developing in the relatively near future, for several reasons:

Gene doping has proved its worth in animals. The recent paper by Hakimi (2007) demonstrated beyond doubt that it is possible to breed transgenic mice with spectacular physical properties using parents taken from the wild and introducing a specific gene into the embryo (increasing the synthesis of a muscle-contracting protein). The resulting offspring are much more aggressive and active than other mice. In their cages they run of their own accord for 6 km at 20 m/min, whereas their wild congeners only cover 0.2 km. They eat 60% more food, yet they stay slim and live longer. They 'burn' fat to obtain the energy they need for their physical activity. According to Richard W. Hanson, the author of this work, 'they are metabolically similar to Lance Armstrong biking up the Pyrenees'.

The development of genetic engineering techniques for therapeutic purposes is more than likely, particularly for treating genetic diseases such as myopathies (or muscle diseases). It is already possible to use genetic engineering to synthesise in vivo various molecules able to act more specifically on muscle to cause muscular hypertrophy and increase muscle strength. These molecules can be introduced by simple intradermal or subcutaneous injection. In the medium term, we can also envisage the possibility of human synthesis of anabolic molecules (similar to GH or IGF1) by injecting a gene vector into the subject. This has already been done in animals. Because of their therapeutic value, the development of techniques and

progress in this area seem inevitable. One might even imagine that these new methods will attract and seduce the general population, whether involved in sport or not, particularly those who are 'ageing'. Recent experiments demonstrate that IGF1 transfection into mouse muscle has a marked effect on age-related muscle loss and the associated loss of strength. Age-related muscle loss is a real public health issue and is a priority in combating ageing because it increases the risk of falls, and therefore of broken bones. It is therefore easy to see the value of developing these techniques and the enormous socio-economic challenges associated with them, particularly in sport, by using these techniques for doping.

2.4. Health risks

The use of performance-enhancing substances or methods is not without its dangers for sportsmen and women. This is officially **a major objective of the fight against doping**. The harmful effects depend on many factors (the nature of the substances consumed, the duration of consumption, the conditions of administration and the general condition of the athlete). Some of these risks are well known when it comes to drugs taken for the purposes of performance enhancement. The risks were scientifically demonstrated when the drug was released on the market. It is fair to assume that these risks are much greater when they are taken on a large scale. Very little is known about the risks associated with taking multiple products, often at supraphysiological doses, especially because ethics and doping bans make scientific study in humans impossible.

Broadly speaking, it is accepted that there are both general risks, i.e. risks common to different substances, and specific risks unique to each of the classes or methods.

2.4.1. General risks

Taking a doping substance encourages the sportsman or women to use another substance or method either to mask the first or to reduce the effects of the first (for example, to be able to sleep after taking stimulants). The risks are therefore increased.

Another major non-specific risk is the **risk of infection** that exists immediately a substance is administered by injection. Because doping is illegal, products are often administered by non-medical personnel without strict respect for health and safety conditions.

2.4.2. Specific risks

Drugs (cocaine, ecstasy, heroin, cannabis, etc.) carry a major risk of physical and/or mental dependency in those who take them.

Others are medicines (EPO, growth hormone, insulin) which, if abused at pharmacological doses or misused, produce side effects in the body.

Stimulants: these carry the same risks as all substances that have an effect on the mind (anxiety, aggression, cardiovascular problems, etc.).

Androgenic steroids and other anabolics: these have the effect of producing male characteristics in women (virilisation) and can cause problems with libido, aggression, torn tendons, etc. For many, they increase the risk of cancer, particularly of the liver (Tentori and Graziani, 2007).

Hormones and similar substances: their use causes internal physiological deregulation with short- and long-term consequences. For example, the side effects of EPO are cardiovascular and brain problems, high blood pressure, pulmonary embolism, etc., which are capable of

causing death. At the doses used by sportsmen and women, which are much higher than those used for therapeutic purposes, most of these hormones increase the potential risk of cancer (particularly breast, colon, prostate cancer, etc.).

Diuretics: these cause dehydration, the severity of which exposes the user to the risk of cardiovascular and brain problems.

Corticoids: using these causes weakness in the tendons and muscles, cardiovascular problems, ulcers, etc.

Gene doping: very little is yet known about the specific risks. It would be fair to mention an increased risk of cancer when the method used aims to stimulate the synthesis of a hormone or growth factor with an anabolic effect and possible risks for offspring in the event of reproduction.

2.4.3. Empirical data

Even though the link with doping has not been established, it is known that the life expectancy of those who have take part in the Tour de France is lower than average. A study conducted by Jean-Pierre de Mondenard shows that cyclists between 1960 and 1990 had a higher death rate than that of the general population for the younger age brackets (25-34 years and 34-45 years). The most common cause of death was vascular problems.

Another cause for concern was the impressive list of Tour de France winners who died before they reached retirement age. For the post-war years alone, there was Fausto Coppi, 1949 and 1952 winner, who died of malaria at the age of 40; Hugo Koblet, 1951 winner, who died in a 'deliberate' car accident at the age of 39; Louison Bobet, 1953 to 1955 winner, who died of cancer at the age of 58; Jacques Anquetil, 1957, 1961, 1962, 1963 and 1964 winner, who also died of cancer, aged 53; Gastone Nencini, 1960 winner, who also died of cancer at the age of 49; Luis Ocana, 1973 winner, who committed suicide when he was only 48; and finally, Marco Pantani, 1998 winner, who died of 'acute cocaine poisoning' on 14 February 2004 in a hotel in his home town of Rimini, Italy.

Lyle Alzado case: former American football star Lyle Alzado died of a brain tumour in 1991 at the age of 43. He admitted publicly that he had taken GH and anabolic steroids. He spoke of the incredible mood swings he suffered, with feelings of spite, aggression and violence both on and off the pitch. With just a few days left to live he said: 'it was a real addiction. I only felt strong if I had taken these products.'

Congenital defects in offspring: a number of worrying cases, particularly among female athletes from the former East Germany who used anabolic steroids. Many of these athletes had children with various deformities. Without a thorough investigation, it is difficult to know whether the number of these cases exceeds the probability for the general population, particularly because the guilt or regret felt by these athletes means that often they will not speak about it. However, Stasi files indicate that anabolic steroids could only be used in conjunction with contraceptives; if pregnancy still occured, 'the ORDER was to ABORT…' (M. Duclos, 2005)

3 Doping, testing and sanctions through a comparison of four international federations (athletics, cycling, football and swimming)

The search for information led to an initial discovery that is worth looking at: the communication of anti-doping information. This differs for the four sports examined. The federations most affected by doping scandals (cycling and athletics) were the ones that responded most readily to our requests and put a lot of information on their websites. Information was more difficult to obtain from the international football and swimming federations. On the basis of the information given and the interviews carried out, other differences emerge between these two groups of federations, particularly in terms of the causes of doping, the number and nature of the tests and also the sanctions. It would have been easy with hindsight to reconstruct the categories of performance-enhancing products detected by the federations. However, we chose not to do this, instead showing the different ways of dealing with doping in each federation, the differences in terms of communication and the difficulties with being able to compare the results obtained. This is essential because it demands a response that the European Union could, or should, provide on this matter: how can we ensure that these controls, results and communication of the results are made uniform, regardless of the sport?

3.1. Evolution of the competition calendar and doping (2003-2007)

When we talk about how competition has changed, we need to differentiate between individual sports such as swimming, athletics and cycling and team sports such as football.

First of all, the number of international swimming and athletics competitions has increased. During the 1960s, the focus of these two amateur sports came every two years with the alternation of the European Championships and the Olympic Games. However, since the 1980s, an annual focus has gradually appeared with the emergence of the World Championships, the European Cup and the World Cup (KPMG Consulting, 2002). During the 1990s, similar changes took place for the winter season. In addition to these championships, the IAAF began organising a series of elite international athletics meetings offering big prize money (the Golden League). These competitions mean frequent long-haul travel, increasing the 'fatigue' factor which needs to be managed along with recovery from intensive training schedules. Cycling already has a very busy competition calendar, with an average of 110-120 competition days per year since the 1960s.

For the three individual sports, the annual number of competitions has remained stable or even fallen in the case of cycling, with a current average of 70-80 competition days for UCI ProTour cyclists. It should be noted that the Tour de France itinerary has also been cut, with a 33% reduction in the total length and a 20% cut in the average length of each stage between 1927 and 2007. Conversely, there has been a steady rise in the average distance per hour covered by the peloton, even after the Festina affair and the intensified fight against doping.

Table 2: Tour de France

Year	Number of stages	Route distance	Average distance per stage	Average race speed
1927	24	5340	222.5	27
1947	21	4640	221	31.4
1967	22	4780	217	35
1987	25	4231	169	36.6
1997	21	3940	187.6	39.4
2002	20	3282	164	40
2006	20	3639	182	40.6
2007	20	3569	178.5	39.2

Source: **http://en.wikipedia.org/wiki/Tour_de_France**

The situation in football has been very different because the number of national and international matches has increased significantly since the 1980s. At present, a footballer playing in a top European club can play just over 60 matches in a season. Unlike the three previous sports, there is constant uncertainty and the pressure to get results continues throughout the season because of the high financial stakes of winning or losing a match.

Everyone, from team managers, coaches and sports doctors, agrees that firstly the increase in the intensity of competitions and secondly the increase in the number of matches for team sports put much greater stress on the body. Because sportsmen and women are better prepared physically, the action is at a faster pace, leading to more injuries and greater fatigue. Doping does not therefore seem to be linked, at least directly, to an increase in the number of competitive sporting events. The question seems more complex. It is worth mentioning another factor that helps to explain the causes of doping in these sports: a more scientific approach to training. This began to emerge in the 1970s in athletics, the 1980s in cycling and the late 1990s in swimming. It takes the form of more targeted training, focused on one or perhaps two objectives each year. In parallel, training workload (twice a day) has been increasing not just in quantity but also in quality (Cruz, 1998). The intensity of training is much greater. This is made possible by focusing on means of recovery. Paradoxically, particularly when we look at what sportsmen and women who have taken performance-enhancing substances have said (Brissonneau, Aubel, Ohl, 2008), although a more scientific approach to training is normally put forward as a tool for preventing doping, it actually leads to medicalisation and the consumption of drugs (non-doping to start with, then doping).

3.2. Number of tests and positive test rates

3.2.1. International Association of Athletics Federations (IAAF)

Since the Ben Johnson affair at the Seoul Olympics in 1989, the IAAF has made vast efforts to increase the **number of tests** per year: these went up 315% between 1990 (820 tests) and 2005 (3404 tests). The total number of positive tests has varied little, fluctuating between 2.8% in 2006 and 3.5% in 2004. In 2007 (a World Championships year), only 51 athletes were penalised for doping, though we do not know the number of tests carried out that year.

Depending on the product

Most products lead to two-year suspensions. For some specified substances[29] (often cannabis, prednisolone, ephedrine, caffeine, etc.), the sanction can be less severe, from a simple reprimand to a two-year suspension[30] [31]. However, sanctions for repeat offences are harsher and depend on the nature of the first offence (Article 10.7, 2007 WADA Code)[32].

What about European athletes?

How many are there and who are they?

This study has only looked at Belgian, French, British, Spanish, Italian and German athletes on whom sanctions have been imposed. Several facts emerge:

- **Over-representation of sportsmen and women from these countries**: a hundred and one athletes from the countries listed received doping sanctions between 2003 and 2007, which represents 22.34% of all athletes worldwide and 39.6% of European athletes in the same period.
- **Under-representation of women**: women only account for 22.77% of cases (men account for 77.23% of sanctions), compared with 35.3% in Europe and 35.4% worldwide.
- **Over-representation of French sportsmen and women** within the countries listed (see Table 3).

[29] A specified substance is not necessarily a minor substance compared with other substances, but a substance that can be taken 'inadvertently' and not with the sole aim of enhancing performance.

[30] Article 10.4 of the 2007 WADA Code and Article 10.3 of the 2003 WADA Code.

[31] Note that in 2007, the sanction for the first offence could be up to two years' suspension, while in 2003 it had been a maximum of one year, or two years for the second offence and a lifetime ban for the third offence.

[32] This article did not appear in this form in the 2003 Code.

Table 3: Distribution of athletes on whom sanctions were imposed (both genders) by country and year (total percentages)

%	2003	2004	2005	2006	2007	Total
FRA	7.92	7.92	10.89	7.92	6.93	**41.58**
SPA	2.97	7.92	0.99	0.00	0.99	12.87
ITA	1.98	3.96	0.99	0.00	4.95	11.88
GBR	1.98	2.97	0.99	0.99	0.99	7.92
GER	3.96	3.96	1.98	3.96	0.00	13.86
BEL	1.98	4.95	0.00	3.96	0.99	11.88
Total	20.79	31.68	15.84	16.83	14.85	100.00

What products are they using?

More than 160 substances used for doping by athletes from all over the world were detected. However, sanctions are not just imposed for taking them. Athletes can be sanctioned if they are in possession of banned substances, are trafficking them, refuse to be tested or located, or if they admit to doping.

The products most widely used by the population studied are cannabis (25.7%), norandrosterone (7.92%), stanozolol (4.95%), prednisolone (3.96%), ephedrine (3.96%), nandrolone (3.96%), heptaminol (3.96%), EPO (3.96%), salbutamol (2.97%), testosterone (2.97%) and caffeine (2.97%). Other products or reasons account for less than 2%.

3.2.2. International Cycling Union (UCI)

Today, the UCI goes further than the rules and sanctions set out in the World Anti-Doping Code because it demands that all prizes and awards received since the date of the positive test by cyclists who have committed an offence be returned.

UCI in-competition and out-of-competition testing since 2006

According to data supplied by the UCI, in 2004 approximately 5300 tests were performed, of which some 2628 were blood tests during competitions. If we look at the figures for the last two seasons, we can see that testing is clearly on the increase (see Table 4).

Table 4: UCI Testing Statistics: 2006-2008

Anti-doping tests	Analysis	2006	2007	Planned for 2008
In-competition anti-doping tests	Urine test	5363	5425	5300
	Blood test	51	86	90
Out-of-competition anti-doping tests	Urine test	152	1051	2400
	Blood test	4	406	7500
Pre-competition blood tests		2683	2881	2500
TOTAL		**8253**	**9849**	**17 790**

Source: UCI website

Analysis of tests carried out within the UCI since 2006

Table 5 shows the number of athletes testing positive or, in the UCI's words, the subject of an Anti-Doping Rule Violation (ADRV) in 2006 and 2007.

The results used here have been classified by country, with a particular focus on Belgium, Spain, France, Germany and Italy. The UCI's figures do not show cases where a national federation or a National Anti-Doping Organisation (NADO) had authority.

Table 5: Distribution by country of athletes sanctioned following testing (both genders) for 2006 and 2007

Year/ Country	2006		2007	
	Number of athletes testing positive	%	Number of athletes testing positive	%
Belgium	0	0.00 %	1	2.5 %
Spain	9	20.93 %	8	20 %
France	4	9.30 %	1	2.5 %
Germany	1	2.32 %	1	2.5 %
Italy	1	2.32 %	10	25 %
Total testing positive out of five countries targeted (in the EU)	15	34.88 %	21	52.5 %
Total testing positive EU	26	60.46 %	26	65 %
Total testing positive in all countries	43	100 %	40	100 %

Source: UCI website

During the 2006 season, out of a total of 43 athletes testing positive or committing an offence, the athletes from the five countries targeted in the study accounted for 34.88%. During the same season, the proportion of athletes testing positive or committing an offence from all the

European Union (EU) countries accounted for more than 60.46% of all athletes (from all countries).

During the 2007 season, out of a total of 40 athletes testing positive or committing an offence, the percentage from the five EU countries targeted in the study is considerably higher. These five countries alone account for 52.5% of athletes testing positive within the UCI in 2007. During the same season, the proportion of athletes testing positive or committing an offence from all the European Union (EU) countries accounted for 65% of all athletes (worldwide).

On average over both seasons, Spain is the country most affected by cases of doping with on average 20.48% of all athletes who tested positive. **Italy is in second place** with on average 13.25% of cases of all athletes testing positive or committing an offence over the two seasons. Finally, France is in third place with 6.02% of athletes testing positive or committing an offence out of all cases detected by the UCI.

2006-2007 seasons: what products are they using?

Table 6 shows the percentages of the most commonly used products for all athletes testing positive in 2006 and 2007, from all countries, during testing carried out by the UCI.

Table 6: Distribution of substances detected in 2006 and 2007 by the UCI (most significant highlighted)

Distribution of substances detected in 2006 and 2007 by the UCI (most significant highlighted) ADRV (Anti-Doping Rule Violation)	Number of cases 2006	Number of cases 2007	% 2006-2007
Ephedrine	1	2	3.40%
EPO	3	1	4.54%
Failure to comply	5	2	7.95%
hCG	1	4	5.68%
Heptaminol	2	1	3.40%
Homologous blood transfusion	1	1	2.27%
Norandrosterone	3	3	6.81%
Phentermine	2	3	5.68%
Prednisolone	1	0	1.13%
Prednisone	1	0	1.13%
Salbutamol	3	3	6.81%
Stanozolol	6	1	7.95%
Testosterone	4	4	9.09%
Triamcinolone acetonide	3	0	3.40%
Use or attempted use	0	2	2.27%
TOTAL Product usages	48	40	100%

Source: UCI website

Of the products, methods or offences detected in cycling in 2006 and 2007, the most widely used product was testosterone at 9.09%, followed closely by stanozolol (7.95%), salbutamol (6.81%), norandrosterone (6.81%), phentermine (5.68%) and hCG (5.68%).

3.2.3. International Swimming Federation (FINA)

Although FINA is one of the federations that releases little information about doping and athletes discovered using performance-enhancing substances, the number of positive tests is still relatively high even though the number of tests performed is lower than in other federations such as cycling. It should be pointed out that in the tests performed, cases detected show a prevalence of cannabis over other products.

Table 7: Cases detected during the last 5 years by FINA

	2003	2004	2005	2006	2007
Total number of tests	1800	2041	1470	1883	1915
Number of positive cases	21	21	32	5	24
% of positive cases	1.16 %	1.02%	2.10%	0.25%	1.25%

Source: FINA website

Table 8: Doping products detected

	2003	2004	2005	2006	2007
Diuretics			2		1
Anabolic steroids	5	9	11		6
Stimulants	7	1	6		4
Cannabinoids	7	7	10		9
Hormones		1		4	1
Glucocorticoids		1		1	1
Beta-2 agonists					1

Table 9: Comparison of the six countries

Year	Country	Belgium	Spain	Great Britain	Germany	France	Italy
2003	No of tests	4	44	103	117	49	81
	Positive cases	1 stimulant	0	1 stimulant	0	2 cannabis	2 stimulants 1 cannabis
2004	No of tests	2	51	94	114	56	88
	Positive cases	1 cannabis	0	0	1 beta-2	2 cannabis 1 anabolic steroids	2 cannabis 2 anabolic steroids
2005	No of tests	0	42	69	118	54	86
	Positive cases	0	1 stimulant	1 cannabis	1 diuretic	6 cannabis 1 anabolic steroids	1 cannabis
2006	No of tests	5	82	91	113	78	91
	Positive cases	0	0	0	0	2 cannabis	1 cocaine 1 cannabis 1 hormone 1 anabolic steroids 1 stimulant
2007	No of tests	2	53	87	125	65	91
	Positive cases	1 cannabis	0	0	0	6 cannabis 1 glucocorticoid 1 beta-2	1 cocaine 1 cannabis 1 hormone 1 anabolic steroids 1 stimulant

3.2.4. Union of European Football Associations (UEFA) and International Federation of Association Football (FIFA)

Looking at Table 10, which shows the number of tests carried out by UEFA between 2003 and 2007, it is clear that anti-doping controls have risen steadily since 2003. The percentage increase between 2003 and 2007 is 82.17% for in-competition tests. Out-of-competition tests did not exist until 2003, so have obviously considerably increased since then. Finally, for both categories of tests, the increase from 2003 to 2007 is 162.74%.

Table 10: Anti-Doping Controls 2003-2007

UEFA Anti-Doping Controls	In competition	Out of competition	Total
2003/04	628	0	**628**
2004/05	688	65	**753**
2005/06	925	423	**1348**
2006/07	1 144	506	**1650**
Total	**3 385**	**994**	**4 379**

Between 1994 and 2005, FIFA performed 3327 doping controls on men and women during four World Cup competitions, two consecutive Olympic Games, one Women's World Cup, one U-19 Women's World Championship, one U-17 World Championship, one Confederations Cup, one Club World Championship, one Beach Soccer World Cup, one U-20 World Championship and one Futsal World Championship.

Only four samples tested positive during this period:

- one for ephedrine and pseudoephedrine (1994);
- one for cannabis during the World Youth Championship (2003);
- one for nandrolone during the World Youth Championship (2003);
- one for ephedrine.

According to FIFA, 'this reflects an overall incidence of 0.12% positive cases over the past eleven years'. The Federation considers this an 'extremely low' number.

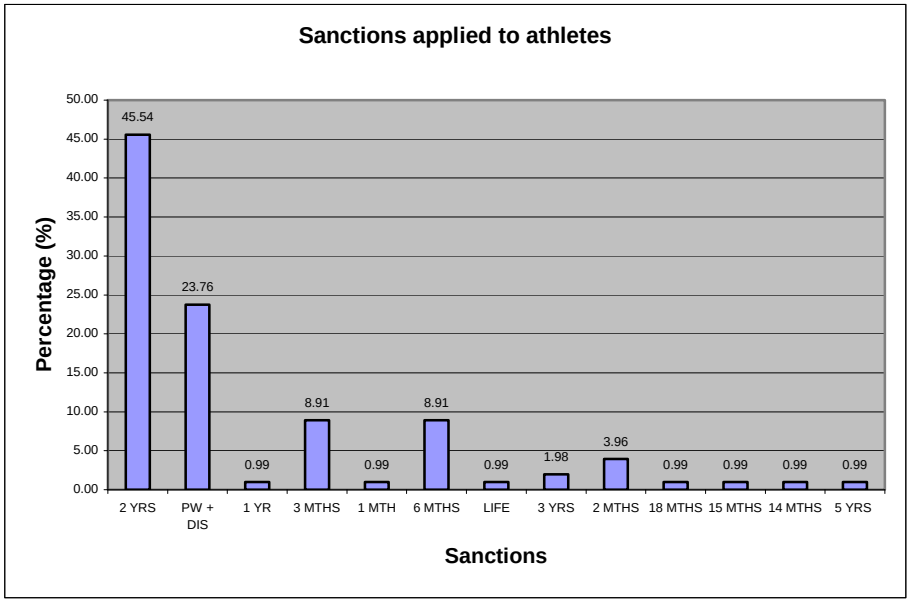
According to International Olympic Committee statistics prior to 2003 and WADA-accredited laboratories in 2004, approximately 20 750 doping controls are performed annually on football players. The majority of tests are performed in Europe, North America and South America. The number of doping controls continues to increase in the other confederations[33].

3.3. Sanctions

3.3.1. International Association of Athletics Federations (IAAF)

More than 45% of sanctions were two-year suspensions (periods of ineligibility) under Article 10.2 of the 2003-2007 WADA Code (see Table 11).

Table 11: Sanctions applied to athletes (population of study, all substances)



Nevertheless, sanctions vary widely for a single substance (see Table 12).

[33] http://fr.fifa.com/mm/document/afdeveloping/medical/6.3_fifa_approach_to_doping_fr_6431.pdf

Table 12: Percentage distribution (per line) of sanctions by product from 2003 to 2007

%	2 YRS	REPRIMAND	1 MTH	2 MTHS	3 MTHS	6 MTHS	14 MTHS	15 MTHS	3 YRS	No. Cases
NORANDROSTERONE	87.5	0	0	0	0	0	0	12.5	0	8
PREDNISOLONE	25	0	0	0	25	25	25	0	0	4
STANOZOLOL	100	0	0	0	0	0	0	0	0	5
SALBUTAMINE	0	100	0	0	0	0	0	0	0	3
CANNABIS	0	34.6	3.8	15.4	19.2	26.9	0	0	0	26
EPHEDRINE	25	50	0	0	25	0	0	0	0	4
TESTOSTERONE	100	0	0	0	0	0	0	0	0	3
NANDROLONE	100	0	0	0	0	0	0	0	0	4
HEPTAMINOL	25	50	0	0	0	0	0	0	25	4
CAFFEINE	0	66.7	0	0	33.3	0	0	0	0	3
TOTAL % SANCTIONS	34.4	28.1	1.6	6.25	12.5	12.5	1.6	1.6	1.6	64

There are no significant differences according to gender between sanctions and products used.

The sanctions for cannabis use are very interesting, since the 26 cases are split between a reprimand and up to six months' ineligibility. More surprising still, cases of prednisolone doping attract sanctions of three months' to two years' ineligibility. Apart from the athletes' ability to defend themselves, this diversity of sanctions (permitted by the Code) is presumably down to the national federations, some of which must apply harsher sanctions for the use of these substances. Indeed, for cannabis, the French federation applied significantly harsher sanctions to its 12 cases of doping than the other countries studied (see Table 13).

Table 13: Distribution of sanctions for cases of cannabis doping in the countries studied (%) (in bold, highest % of sanctions per country)

%	REPRIMAND	1 MTH	2 MTHS	3 MTHS	6 MTHS	No. cases
FRA	8.33	0	8.33	25	58.33	12
SPA	0	0	0	100	0	1
ITA	0	50	50	0	0	2
GBR	100	0	0	0	0	2
GER	66.67	0	33.33	0	0	3
BEL	66.67	0	16.67	16.67	0	6

For prednisolone use, the differences between the sanctions are even greater. Of the countries studied, only France and Belgium are affected.

Table 14: Distribution of sanctions for cases of prednisolone doping in the countries studied (%)

%	2 YRS	3 MTHS	6 MTHS	14 MTHS	No. cases
FRA	33.33	0	33.33	33.33	**3**
BEL	0	100	0	0	**1**

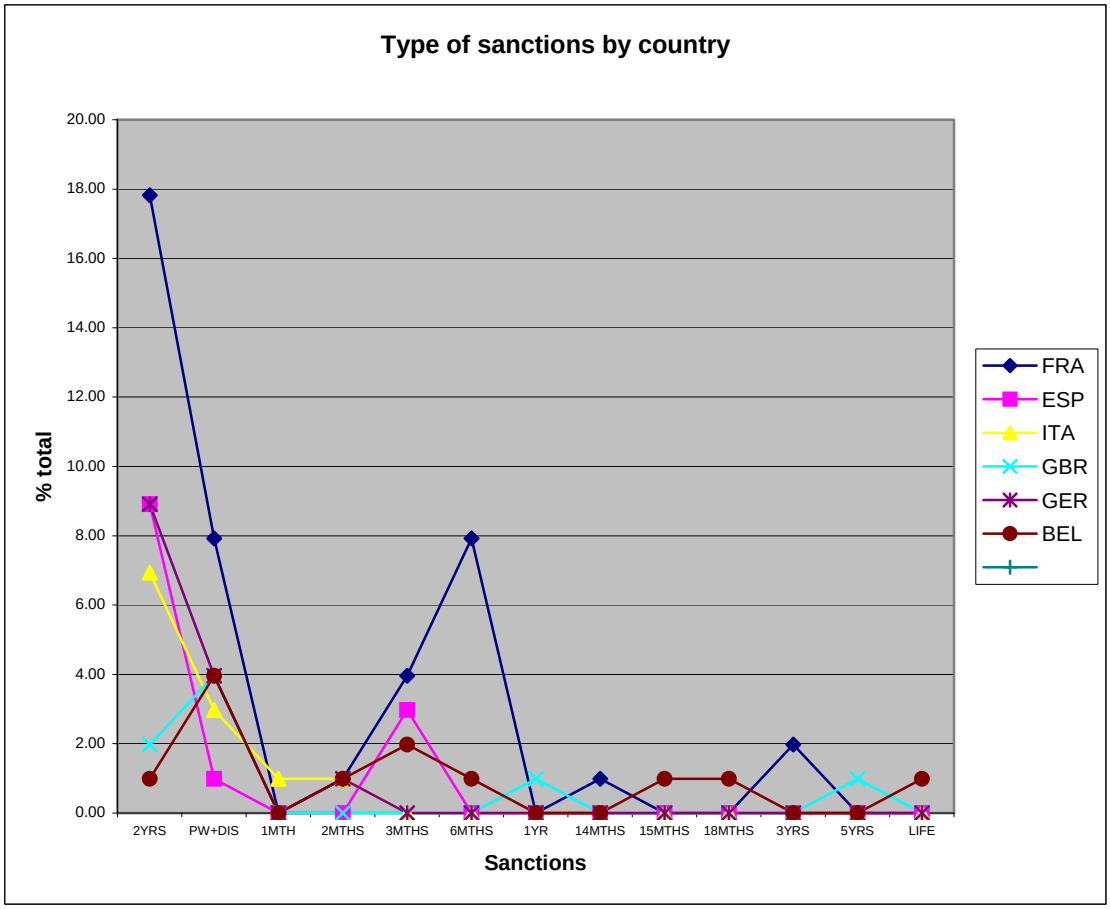
More severe sanctions are applied to French athletes than to Belgian athletes, although no significant statistical difference appears (see Table 14).

Furthermore, worldwide, out of nine cases detected, only athletes from France were given sanctions of six months or more. In 55% of cases, the sportsmen and women were only reprimanded. Although it might be possible to explain the disparity in sanctions for cannabis use (a criminalised product) by the laws in the countries concerned, the number of cases and

the codes of each national federation, how can this explanation be applied to prednisolone, an anti-inflammatory (from the glucocorticosteroid family)?

Looking at the type of sanctions applied by each country (Table 15), it seems that French athletes receive the most two-year suspensions (in accordance with the Code, without any reduction of sentence) and at the same time the most reprimands (in accordance with Article 10.4 of the 2007 Code and Article 10.3 of the 2003 Code).

Table 15: Type of sanctions given by country



Conclusion

The percentages of sportsmen and women using performance-enhancing products remains low in view of the number tested. Also, even though in theory all athletes may be tested, only those at national and international level actually undergo testing. So the number of athletes likely to be tested remains low in view of the total number of athletes in the sport. The small number of tests is also explained by the cost. The IAAF spends more than USD 2.5 million on testing.

3.3.2. International Cycling Union (UCI)

For the same population of cyclists sanctioned in 2006 and 2007 by the UCI, the sanctions are shown in Table 16 for all substances and all countries:

Table 16: Sanctions applied during the 2006-2007 season

Sanctions (2006 and 2007 seasons)	Number	Percentage
Acquitted for legal reasons	6	7.22 %
Acquitted for medical reasons	7	8.43 %
Acquitted for scientific reasons	1	1.20 %
Warning	2	2.40 %
Disqualification and warning	7	8.43 %
Disqualification, warning and reprimand	1	1.20 %
Disqualification and ineligibility: 2 months	1	1.20 %
Disqualification and ineligibility: 4 months	1	1.20 %
Disqualification and ineligibility: 6 months	1	1.20 %
Disqualification and ineligibility: 8 months	1	1.20 %
Disqualification and ineligibility: 12 months	6	7.22 %
Disqualification and ineligibility: 18 months	2	2.40 %
Disqualification and ineligibility: 2 years	39	46.98 %
Disqualification and ineligibility: 3 years	1	1.20 %
Disqualification and ineligibility: 8 years	1	1.20 %
Disqualification and ineligibility: Life	6	7.22 %
Total sanctions	**83**	**100 %**

More than 46% of sanctions were disqualifications accompanied by ineligibility (or suspension) for a period of two years, which is in accordance with the World Anti-Doping Code. On the other hand, there was a high rate of acquittals for legal, medical or scientific reasons at 16.86% in 2006 and 2007, which poses an image problem both for the UCI and for the sportsmen and women found guilty of doping.

According to UCI statistical analyses, the sanctions applied for the most frequent offences in 2006 and 2007 are as follows:

Table 17: Sanctions applied in cases of testosterone doping, 2006-2007

Sanctions for testosterone doping	Number of cases	%
Acquitted for legal reasons	1	12.5 %
Disqualification and ineligibility: 2 years	6	75 %
Disqualification and ineligibility: 3 years	1	12.5 %
Total	8	100 %

Table 18: Sanctions applied for failure to comply with anti-doping controls, 2006-2007

Sanctions for failure to comply	Number of cases	%
Acquitted for legal reasons	4	57.14 %
Disqualification and ineligibility: 1 years	1	14.28 %
Disqualification and ineligibility: 2 years	1	14.28 %
Disqualification and ineligibility: LIFE	1	14.28 %
Total	7	100 %

Table 19: Sanctions applied in cases of stanozolol use, 2006-2007

Sanctions for stanozolol use	Number of cases	%
Disqualification and ineligibility: 2 years	5	71.42 %
Disqualification and ineligibility: LIFE	2	28.57 %
Total	7	100 %

Table 20: Sanctions applied in cases of norandrosterone use, 2006-2007

Sanctions for norandrosterone use	Number of cases	%
Disqualification and ineligibility: 1 year	1	16.66 %
Disqualification and ineligibility: 2 years	4	66.66 %
Disqualification and ineligibility: LIFE	1	16.66 %
Total	6	100 %

Table 21: Sanctions applied in cases of salbutamol use, 2006-2007

Sanctions for salbutamol use	Number of cases	%
Acquitted medical reasons	3	50 %
Disqualification and warning	2	33.33 %
Disqualification and ineligibility: 2 months	1	16.66 %
Total	6	100 %

3.3.3. International Swimming Federation (FINA)

Information is difficult to access either on the website or from the federation. All that is shown on the website is the names of swimmers sanctioned since the start of 2008. Unlike with the previous two sports, there were few swimmers testing positive, and the ones who did came from countries with relatively poor results in the sport. Apart from Russia, no other major countries had any positive cases, which might be surprising. The absence of cases of cannabis use should also be noted.

Table 22: Sportsmen and women sanctioned for doping in 2008 (FINA website)

Gender	Nationality	Substance	Sanction
Male	Croatian	HGC hormone	dropped because of insufficient proof
Female	Egyptian	Ephedrine	2-year ineligibility
Female	Brazilian	Testosterone	provisional suspension
Female	Italian	Octopamine	?
Male	Moroccan	Nandrolone	2-year ineligibility
Male	Russian	Boldenone	2-year ineligibility
Female	Russian	Furosemide	2-year ineligibility
Male	Tunisian	Refusal to submit to sample collection	2-year suspension
Male	Brazilian	Stanozolol	2-year suspension

The lack of accessible information (this is not unique to the swimming federation) should be interpreted in various ways. It could be a simple lack of communication and/or organisation, a policy decision not to communicate on a sensitive issue that could tarnish the image of a 'clean sport', or even a lack of interest.

3.3.4. Union of European Football Associations (UEFA) and International Federation of Association Football (FIFA)

UEFA, substances detected and related sanctions

Table 23 supplied by UEFA lists the substances detected during testing carried out between 2003 and 2007, as well as the sanctions applied for these substances. We were not given information about nationality.

Table 23: UEFA, substances detected and sanctions between 2003 and 2007

POSITIVE CASES		
Year	**Substances detected**	**Sanction in months**
2003/04	Ephedrine	6
	Bromantan + metabolites	12
	Methylprednisolone	no sanction (lack of fault of player)
2004/05	Benzoylecognine (cocaine metabolite only)	12
	Benzoylecognine (cocaine metabolite only)	12
	Betamethasone + Bethylprednisolone	2
	Cannabis	6
	Cannabis	6
2005/06	Cannabis	3
	Cannabis	4 (2 provisional)
	Chlortalidone (Masking)	12
	Fenoterol	1
	Mesterolone	6
	Metandienone	18
	Salbutamol	3
2006/07	Bethamethasone	18
	Cannabis	2
	Cannabis	2

'No evidence for systematic doping in world football' (FIFA)

FIFA has compiled its own database of positive samples in order to control sample management within its member confederations and associations. The tables[34] below were created by FIFA from these samples for the 2004 and 2005 seasons. The results show 88 positive samples in 2004 (a rate of 0.42%, assuming that there are 20 750 samples per year) and 78 positive samples in 2005 (0.37%) recorded by FIFA (see Table 24).

It is important to note that these statistical analyses by FIFA include only positive samples, in contrast to the WADA statistics. Neither applications for Therapeutic Use Exemptions nor pending Testosterone/Epitestosterone ratio cases appear in these figures.

[34] The data is accessible on FIFA's website, 'FIFA's approach to doping in football': http://fr.fifa.com/mm/document/afdeveloping/medical/6.3_fifa_approach_to_doping_fr_6431.pdf.

Table 24: FIFA doping statistics by substance for 2004 and 2005 (excl. T/E)

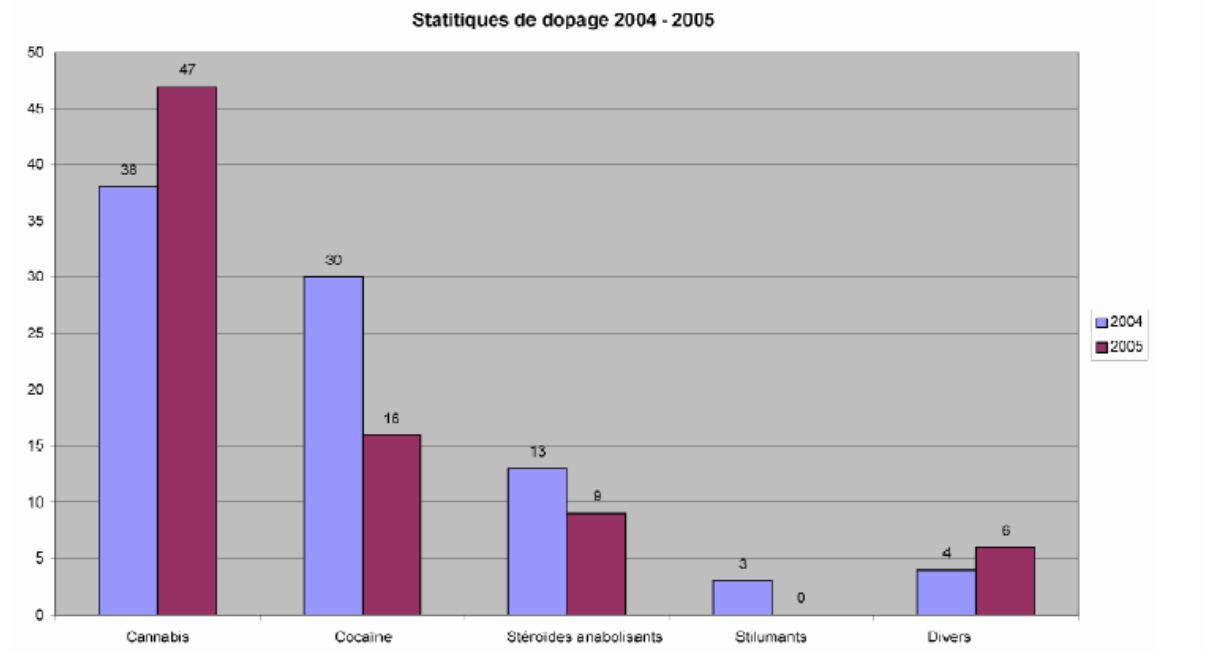


Figure 1 : Statistiques de dopage de la FIFA par substance pour 2004 et 2005 (excl. T/E)

FIFA estimates at approximately 20 000 the number of doping controls performed annually on football players. According to this figure, only 1% of tests are positive. Mostly they concern so-called recreational drugs like cannabis and cocaine, as shown in the figure below (FIFA, 2004-2005 statistics). For all sportsmen and women tested within FIFA, cannabis accounted for approximately 43% of all positive cases in football.

Since 2003, the sanctions for cannabis use have included a suspension of between two to six months for the footballer concerned. The detection method used is urine analysis. The threshold for a positive test has been set at 15 ng/ml in order to eliminate false positive results due to passive inhalation.

For example, we know that 'in 2005, 23,478 doping tests were performed in football worldwide. According to the FIFA database, 78 samples (0.33%) tested positive and, of these, 14 samples (0.06%) were positive for anabolic steroids. About 80% of positive samples were due to cannabis and cocaine.' (FIFA Regulations, Doping Control 2008, p. 4). FIFA estimates cases of doping with anabolic steroids at less than 0.1% overall.

Table 25: Substance in each positive sample from WADA-accredited laboratories in 2004

Samples	**Incidence %**
Cannabis 37	0.18
Cocaine 30	0.14
14 anabolic steroids	0.07
3 stimulants	0.01
4 other	0.02
Total 88	**0.42**

Two main conclusions can be drawn from these analyses. Firstly, the incidence of positive samples is low compared with the total number of tests performed. Next, the presence of

drugs associated with performance enhancement (including anabolic steroids and stimulants) is also low compared with so-called 'recreational' drugs (cannabis, cocaine). Finally, according to the federation, there is no evidence for 'systematic doping' in this discipline.

Europe and doping in football

Table 26: FIFA statistics for positive samples in 2004 and 2005 by confederation

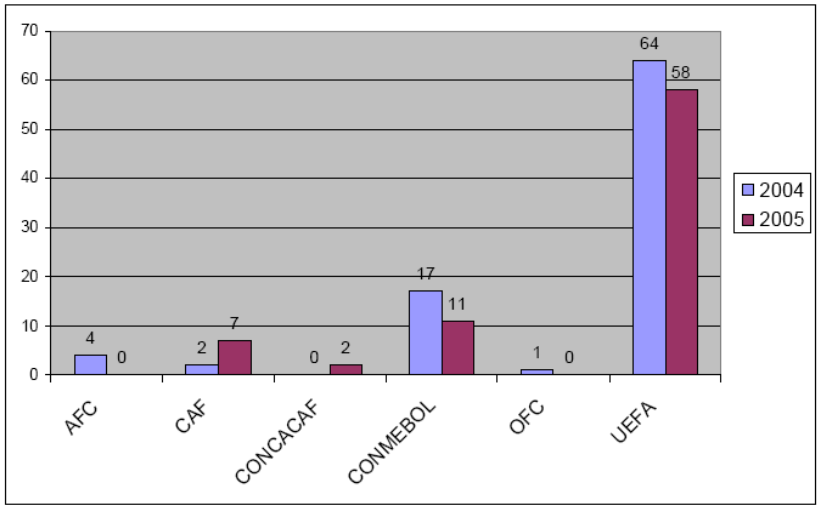


Figure 2 : Statistique de FIFA des échantillons positifs de dopage par confédération en 2004 et 2005 (excl. T/E)

Table 27: FIFA statistics for positive doping samples for Europe in 2004 and 2005

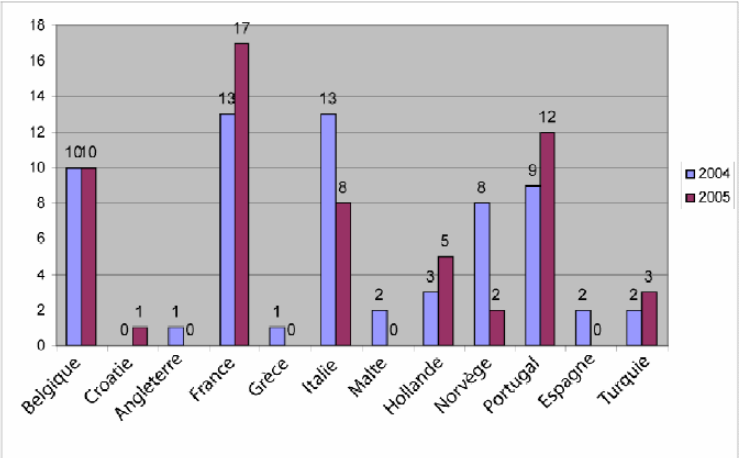


Figure 3 : Statistique de la FIFA des échantillons positifs de dopage pour l'Europe en 2004 et 2005 (excl. T/E)

	Échantillons	Positifs	Incidence %
AFC	1.058	4	0.38
CAF	715	2	0.28
CONCACAF	275	0	0.00
CONMEBOL	3.993	17	0.42
OFC	226	1	0.44
UEFA	14.483	64	0.44
Total	20.750	88	0.42

Tableau 1 : Statistiques de dopage des laboratoires accrédités de l'AMA pour 2004 par confédération (excl. T/E) pour 2004.

Table 28: WADA-accredited laboratories' doping statistics for 2004 by confederation

Conclusion

According to FIFA, the 'relatively low incidence of positive doping samples, especially for the true performance enhancing drugs such as anabolic steroids and stimulants, supports the assumption that there is no evidence of systematic doping in football'. It bases this claim on figures compiled by UEFA, which collected 320 samples (all negative) during the 2005/2006 Champions League. FIFA President, Sepp Blatter, also declared his optimism over low rates of doping within his sport (*L'Equipe*, 5 December 2003). We should add that he had long been calling for a simpler sanctions tariff because of the professional nature of football before signing the World Anti-Doping Code in 2004. Test results will soon tell us whether this optimism is warranted. Two factors temper this optimism:

1. A number of studies have shown the importance of doping within a sport when it reaches a certain level of rationalisation (intensive training, a more scientific approach to training, medicalisation, transition to commercialised sport), which has been the case with football since the early 1980s.
2. The discovery of a drug ring (and even doping that could not be proven because of the passage of time and the lack of evidence against doctors) within Juventus during the 1990s and the 'Calcio widows' scandal showing the high mortality rate of Italian footballers following an extremely rare disease.

Looking at these different issues, it is apparent that different sportsmen and women do not receive equal treatment on the doping question. Some sports and some sportsmen and women seem a particular target. As we saw from the section on sponsors, some sports (where there is a large amount of money at stake) are constantly singled out and are carefully monitored by anti-doping agencies. This also means that sports which receive less media coverage or are non-professional but are still affected by doping issues are forgotten. Similarly, some countries appear from statistical surveys to have a higher percentage of sportsmen and women who use performance-enhancing drugs than other countries. Two diametrically opposed explanations for this can be given: the existence of organised doping networks or better enforcement. Despite the recommendations of the World Anti-Doping Code, national federations in a single sport apply very different sanctions for the same product. Some give heavy penalties where others let offenders off. Since their approach is completely different, it seems likely that their adhesion to the World Anti-Doping Code will lead to a regulation from 2009. The creation of national agencies independent from the sports movement would guarantee greater fairness and transparency as regards testing. In interviews, those leading the fight against doping admitted to us the difficulty in going to some parts of Europe or other continents to perform unannounced tests, which may explain the higher positive test rates in European Union countries. The current anti-doping campaign therefore seems to be inherently unequal in terms of treatment, especially for those making a major effort to fight it. Finally, since doping is a public health issue, why are the controls mainly targeted at top-level sport?

4 The role of sports professionals in the anti-doping campaign

A number of professionals involved in the doping issue have been studied. There is a notable lack of coordination for conducting an effective campaign against doping.

4.1. The sports entourage

According to research by various British (Waddington, 2000), German (Treutlin, 1999) and French (Vigarello, 1999; Yonnet, 1998; Bodin et al., 2005a) sociologists, a distinction should be made between the ethical discourse of government and sports institutions (national and international federations, national Olympic committees or the IOC) and the reality of socialisation in sport focused on the logic of top-level sport ('citius, altius, fortius') rather than the health of the sportsman or woman. With its focus on this logic, the sports entourage is primarily working to exploit sporting talent, which involves mastering various techniques. These aim to make maximum use of working strength, and cause major health problems such as injuries to tendons, muscles and joints, or more serious accidents caused by falls from gymnastic equipment or falls with weightlifting bars, for example. Since top-level sportsmen and women are constantly exposed to risk (Loland, Skisrstad, Waddington, 2006; Young, 2004), the issue of doping takes on a different perspective. (Brissonneau, 2007). In addition, according to Coakley (2001), taking doping products in some cases helps with acceptance into a group that already consumes them.

Any ethical discourse by a coach has more to do with individual sensibilities than any collective reality. One of the explanations – apart from the fact that the logic of top-level sport is primarily to win – lies in the fact that learning sporting values and thinking about the purposes of sport are not on the curriculum of many courses for coaches, apart perhaps from the more multi-disciplinary courses run by universities. Some studies (Brissonneau, 2003) also point the finger at the ambivalent discourse of the sporting entourage, which includes sports doctors, who are opposed to doping. For example, their discourse to sportsmen and women on the value of medicalisation has produced an intensive drug-taking process in top-level sport (Waddington, 2000).

4.2. The role of sponsors

Ten years on from the Festina affair in 1998 and despite repeated scandals in cycling, there are still plenty of sponsors. At the recent 'Forum international pour le renouveau du cyclisme' in Paris, several sponsors again expressed an interest in this discipline. Cycling is one of the only sports in which the team takes the sponsor's name and all the logos on the cyclists' jerseys are the sponsor's. During the turbulent years between 1997 and 2000, the credit company Cofidis saw its spontaneous recall rate rise from 2% to 26% between 1997 and 2000. The cost of a team and exploitation of media coverage is still, despite the increase in budget following the setting up of the ProTour, much less than the cost of a television advertising campaign. This sponsor and others have again seen their recall rate rise during subsequent years despite continuing doping scandals. In 2007, the recall rate for La Française des Jeux (a lottery company and sponsor of a cycling team) was 33%. To control the image of cycling and their corporate image, since 1998 sponsors in France[35] have been involved in the campaign against doping, which previously had been a matter for the federations and the

[35] They are involved in France because it is the venue for the most famous cycle race, largely justifying their investment.

French Ministry of Youth and Sport. A key feature was the action by La Française des Jeux, which in 1999 asked the sports authorities responsible for combating doping to step up research on EPO. La Française des Jeux was also behind the Sponsors' Charter signed in 2007 by the French teams La Française des Jeux, Crédit Agricole, COFIDIS, AG2R Prévoyance, Bouygues Telecom and Caisse d'Epargne, the German teams T-Mobile and Gerolsteiner, and the Italian team Liquigas. Only three countries are represented, which suggests a new vision of doping shared by few. These sponsors also pushed for the introduction of new detection equipment by the French national authorities, the UCI and WADA. They were joined in this by the schedule managers of the French television channel France 2, the German channels ZDF and ARD and the European Broadcasting Union. Their insistent demands, supported by their financial weight in professional cycling, have changed the attitude of sports institutions and cycling teams to the anti-doping campaign, at least partially. This pressure on sport has paid off. Results from the World Anti-Doping Agency (2007-2010), currently being studied by Paris V, Paris X, Lausanne and Liège universities, show a change in attitudes and a fall in doping within cycling.

This has only happened in cycling because in other sports, sponsors have little or no involvement in dealing with doping issues. The image of sports such as football and swimming, where sponsors' names appear on jerseys and costumes, are not particularly associated with doping, despite the scandals in Italian football, for example. In addition, cycling sponsors who invest in other sports are not as involved in the doping issue in these sports, e.g. the insurance company AG2R, which sponsors a cycling team and the Transat, the famous yacht race. However, the presence of doping in the majority of sports is sometimes hinted at by sportsmen and women themselves and brought to light by scandals or figures from tests by federations and national or international anti-doping agencies. Despite this, few sponsors in Germany or France contribute financially to preventive measures.

In conclusion, doping scandals, in contrast to what the sponsors say, have little effect on the sales or image of the companies affected. According to Blumrodt and Roloff (2008), what is needed is to manage communication on the crisis situation, to show respect for the ethical values of sport and to promote these. This pressure from sponsors has an effect on the anti-doping campaign. What is this effect? Does this action eradicate the problem or is it just good publicity without actually achieving anything? It is also disappointing that sponsors' action is only focused on one sport, cycling. Moreover, within this sport, the doping issue is only really discussed in road cycling and very little in other disciplines such as mountain biking, for example.

4.3. Control of pharmaceutical companies

On the basis of the interviews conducted, contact between the anti-doping authorities and pharmaceutical companies seems fairly limited. It tends to be the result of a particular relationship between a researcher and a company or media pressure forcing a company to cooperate. Only one case was reported to us where the contact was solely on the initiative of WADA to speed up research on the detection of a new form of recombinant EPO that was going to be released. If there seems to be more contact with WADA, this is because of the previous career of its scientific director, who used to work in the pharmaceutical industry. He therefore knows the leading figures in the industry, and the interests and strategies to be adopted to develop this cooperation.

A joint approach of this kind seems necessary to respond rapidly to the advent of high-tech molecules. The anti-doping agencies do not have sufficient political weight at present to impose this kind of cooperation on the pharmaceutical companies.

4.4. Food supplements industry

For some years this market has been experiencing strong growth, which looks unlikely to stop in the near future. In 2003, Synadiet (the French Union of Dietary Product and Natural and Food Supplement Manufacturers) estimated the value of the global food supplement market at **EUR 45 billion**, shared between the American market (37%), the European market (30%) and the Asian market (28%) dominated by Japan (RESIS, 2003). This consumption is therefore not just by top-level sportsmen and women, but reflects a much wider demand. Purchasing this type of product seems to be made easier by the many products on offer and secure online payment methods. Consequently, there are many different sources of supply (both the USA and Japan) governed by legislation that is restrictive to varying degrees, using vastly different definitions of food supplements (Gandrille, 2008). The companies behind these websites also vary in size and adopt varying degrees of flexibility in their approach to legislation. To regulate consumption in sport, the IOC for some years now has been encouraging international federations and National Olympic Committees to be as cautious as possible regarding food supplements. In a report published in 2002, the IOC explained that 14.8% of supplements contained doping substances (Gandrille, 2008). Within the framework of the International Convention against Doping in Sport, UNESCO encourages manufacturers and distributors to establish best practices.

Meanwhile, through Regulation (EC) No 178/2002 of 28 January 2002 (known as the 'food law'), the European Parliament has taken an interest in foods in general. In particular it mentions that responsibility lies with the distributor. Among other things, distributors must organise production according to HACCP (Hazard Analysis Critical Control Point) principles, which require the identification and elimination of risks. They must also guarantee the traceability of their food products (Article 17). This Regulation has caused a problem because there are different levels of buyers and sellers in the marketing process. Individual responsibilities are therefore more difficult to pin down. Secondly, the distributor's responsibility concerns the results, not the means. No proof is required of product quality. Partly to respond to the need to make foods in Europe safer, the European Food Safety Authority (EFSA) was set up in January 2002.

Europe also took an interest in food supplements when it adopted a fairly precise definition (Directive 2002/46/EC of the European Parliament and of the Council of 10 June 2002 on the approximation of the laws of the Member States relating to food supplements): 'foodstuffs the purpose of which is to supplement the normal diet and which are concentrated sources of nutrients or other substances with a nutritional or physiological effect, alone or in combination, marketed in dose form, namely forms such as capsules, pastilles, tablets, pills and other similar forms, sachets of powder, ampoules of liquids, drop dispensing bottles, and other similar forms of liquids and powders designed to be taken in measured small unit quantities' (Article 2). This Directive has been transposed by some Member States into their own law with the result that the sale of new products has to be declared to national institutions responsible for ensuring their compliance. Two points should be highlighted:

1. The European definition concerns consumption by the whole population and therefore makes no distinction for sportsmen and women, who are also subject to sporting regulations.
2. An obligation of results is demanded, and not of means. Consequently, generally only large companies will set up regular production controls.

As a result, sportsmen and women and the general public in Europe have been unsure of the content of food supplements on the market in 2008. It seems that in the EU's own internal market, some distributors are selling food supplements without knowing enough about anti-doping rules because of the lack of information. This lack of information also applies to consumers. This explains why food supplements that contain doping products are on sale in pharmacies and specialist shops among products for consumption by sportsmen and women.

4.5. Police forces

Since the 1960s, when the anti-doping campaign began, the police have successfully intervened in various doping scandals. Each time, the scandal has been followed by renewed activity. In Italy, after the Festina affair and the passing of a new law on doping in 2000, the customs and police forces made important seizures.

Table 29: Seizures of doping products in Italy

2003	1 982 520 doses
2004	2 243 843 doses
2005	2 536 900 doses

Source: Donati report (2007)

The same thing happened in France after the third law on doping was passed (1999). Moreover, it should be noted that France and Italy are considered centres for trade in these products. However, not all of the products are destined for consumers in these two countries.

Despite this, based on interviews with customs personnel, the French police force and those active in fighting doping in the European Union, the search for doping products seems to have been scaled down over the past two or three years. Even though the current movement to criminalise possession in Germany, France and Switzerland might revive efforts by police, it seems unlikely that it will have any real impact in the medium term. There are a number of reasons for this:

- the authorities seem to want to focus police searches on anything that affects public order, which is the case with narcotics but not with all families of doping products.
- The cost of investigations is high (surveillance, telephone tapping, etc.), but few cases reach court, and for those that do, prison sentences have been relatively short.
- The legalisation of 'soft' drugs. Because of a backlog in the courts (for all types of cases), police officers have been told to confiscate small amounts of cannabis and issue a fine for anyone caught possessing up to 20 grams. Only those with more than 20 grams are sent to court. This makes it difficult to find people in possession of these drugs solely for the purpose of enhancing their sports performance. It is also not easy to control pharmaceutical products on which there is no general ban for non-athletes.

For these three reasons, a number of cases of individual possession of pharmacological products, most often by bodybuilders, have not been followed up in the courts.

To improve police investigations of international rings, calls for coordination were made in the report 'Harmonisation of methods and measures in the fight against doping[36]', written for the European Commission in 1999. The creation of a central organisation responsible for the fight against doping was recommended. It should have a reference laboratory able to collaborate with the national and international bodies concerned (courts, police, customs, EUROPOL, INTERPOL, CFI, UN, etc.).

A further proposal for coordination was made on 2 February 2004 by the Secretary General of Interpol, Ronald K Noble, but no working meetings have yet been set up. A survey questionnaire was sent to the 178 members of INTERPOL. Only 74 countries replied and the level of responses was relatively low, which shows the lack of police interest in the doping issue. Cooperation should be developed between the World Anti-Doping Agency and INTERPOL. Announced in late 2007, it was the subject of a recent agreement in May 2008. Coordination of this kind, at least within Europe, seems essential to combat doping, although police forces in European Union countries seem more focused at present on other aspects of law and order.

[36] http://ec.europa.eu/research/smt/hardop-fr.pdf.

5 Five scenarios for the fight against doping

To conclude this review, it seems important to suggest five scenarios for the fight against doping in Europe. These scenarios take into account both the assessment carried out and the anti-doping issues raised earlier in this report, as well as possible opportunity models for intervention by the European Union. We can start by acknowledging simple truths:

1. **The fight against doping has been a total failure**
   - The laws, regulations and controls have resolved nothing.
   - Tests give false positives.
   - Tests reveal large numbers of cannabis smokers, which goes back to:
     - the question of equal treatment for athletes compared with ordinary citizens;
     - the wider question of social use of these 'soft' or 'recreational' drugs;
     - the question of criminal law treatment, which varies in each country.
   - The 'true false negatives' are not identified because products are used which are currently undetectable.
   - Anti-doping controls have resulted in gradual shifts in behaviour: deviancy amongst athletes and the emergence of a black market.
   - Anti-doping controls have encouraged the use of dangerous products.
   - Doping is on the increase.
   - Some sports are either never caught out or else cover it up.
   - The fight against doping has not therefore protected athletes' health, but may actually have harmed it.

2. **The fight against doping raises ethical problems:**
   - Athletes are discriminated against to varying degrees, depending on the sport they practice.
   - Discrimination depending on the amount of money there is in the sport and/or in the country of origin: this raises not only ethical questions but health problems too.
   - The fight against doping is an intrusion into private life and an attack on individual freedom (blood tests, urine tests).

3. Consequently, **athletes are discriminated against and treated differently from ordinary citizens**. Why not adopt the same measures for our political leaders? Or for our captains of industry? Or for the senior executives of large corporations? And so on.

4. If we are unable to eliminate doping because athletes want to win medals, or due to the rationale of competitive sport or the profit-making interests of companies, **then should we not try instead to reduce the risks faced by athletes by improving supervision over the long term?**

5. **Should we not start by carrying out an extensive epidemiological survey** to determine whether or not top athletes who take drugs experience more health problems, disease and premature deaths than ordinary individuals?

Scenario 1

Continuation of the ban

Advantages: None

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. Categorisation of citizens: ordinary citizens versus civilians. The athlete is not an ordinary citizen.			**1 to 4.** Extend sanctions to club managers, federations and doctors.
2. Problems with detecting doping cases.		**2a.** Need for longitudinal supervision regardless of the sport (legally, this is an attack on personal freedom, which requires the athlete's consent). **2b.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	
3. Problems with detecting products.	**3a.** Two-speed doping (professional sport and athletes/amateur sport and athletes, and poor countries versus developed countries). **3b.** Health of athletes who are isolated later on.	**3a.** Need to monitor networks and supply points (e.g. personal files, venue records, etc.) and the athlete's immediate entourage. **3ba.** Need to carry out epidemiological surveys of athletes who have retired from the international scene. **3bc.** Implementation of medical supervision over the long term. **3bd.** Increase the number of education and prevention campaigns.	
4. Problems related to federations.	**4a.** Cover-ups (to keep a sport clean and 'marketable' **4b.** Absence of coordinated control. **4c.** Revisit links between national and European federations to establish shared responsibility. **4d.** Non-disclosure or incomplete disclosure of results.	**4a.** Need for a fully independent body to organise and manage testing. **4b.** Need for a specific regulation so that athletes cannot refuse to be tested (see for example the problems in Spanish football). **4c.** Introduce sanctions for federations and leaders.	

Scenario 2

Legalisation for professional sports or athletes

Advantages: **Allow 'health' supervision of athletes**
Revise existing situation

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. How can we decide whether a sport is 'truly' professional and thus define a limited sporting exception?	**1.** Increase in the number of sports claiming to be 'professional', but which are not.	**1.** Draw up a list of sports. Who is responsible and who has overall control?	
2. How can we distinguish between professionals and amateurs within the same federation?	**2.** Amateurs who take drugs so that they can turn professional.	**2.** Draw up a list of amateur and professional athletes in each federation. How often should this be done? Who is responsible for this?	**2.** Testing in amateur sport: ban on turning professional if the athlete tests positive?
3. What about young people (minors) who grow up in professional sport?	**3a.** Difficulty in protecting young people who take drugs so that they can turn professional.	**3aa.** Need to plan longitudinal supervision regardless of the sport (athlete's consent required). **3ab.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	
	3b. Is there not the risk of reducing the number of young people in federations if the parents are concerned?		
4. What about equality between sports?			

Scenario 3

Legalisation for seniors

Advantages **Allow 'health' supervision for athletes,**
Revise existing situation
Protect 'minors'

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. How is control exercised?	**1a.** Minors may take drugs to progress to senior level.	**1a.** Need to plan longitudinal supervision regardless of the sport (athlete's consent required).	
	1b. Too much disparity exists between junior and senior levels. The same applies to professionals and amateurs.	**1b.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	**1b.** Ban on being promoted to senior level for minors who test positive.
2. What about legality between athletes, e.g. minors who grow up to become seniors?			
3. Should 'young people' growing up to become seniors be considered as seniors? This will result in a new sporting exception.	**3a.** Increase in uncontrolled doping in minors who want to progress to senior level at any cost.	**3aa.** Need to plan longitudinal supervision regardless of the sport (minimum competition level). **3ab.** Need to increase out-of-competition testing. Who initiates this? Who handles the investigation?	

Scenario 4

Establishment of maximum levels for tests (e.g. UCI hematocrits)

Advantages: **Allow 'health' supervision for athletes,**
Revise existing situation
Adopt 'soft' approach to legalisation

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. Difficulty in drawing up a list.	**1a.** Use of a variety of different techniques to standardise marker rates.	**1a.** Information and training for athletes.	
	1b. Use of masking products.	**1b.** Information and training for coaches. **1c.** Duty to declare what products have been taken.	
2. Problems related to tests.		**2a.** Need for a fully independent body to organise and manage testing. **2b.** Set up testing and supervision bodies. Obligation for supervision by a specified body, or failing that, a ban on competing.	**2b.** If there is no supervision, then banned from competing.
3. Problems related to how testing is organised.		**3a.** Need to plan longitudinal supervision regardless of the sport (athlete's consent required). **3b.** Need to increase out-of-competition testing.	

Scenario 5

Total legalisation of top athletes with compulsory supervision

Advantages: **Allow 'health' supervision for athletes**
Revise existing situation
The athlete is treated like an ordinary citizen

Problems encountered or expected	Pernicious effects	Complementary measures that could be taken	Sanctions
1. Increase in the number of doping cases.	**1a.** Use of potentially health-endangering products (particularly at high doses).	**1.** Organisation of longitudinal supervision of athletes (health perspective).	
	1b. Continued existence of a parallel market.	**1b.** Improved product control (traceability).	**1b.** Criminal law sanctions and fines, as in the case of drug dealing.
		1c. More control over distribution chains.	
2. Recourse to doping at a very young age in athletes who want to reach the highest level: doping is the norm.	**2a.** Major health risk in growing young athletes.	**2aa.** Organisation of longitudinal supervision of young athletes (health perspective). **2ab.** Need to organise education and awareness-raising campaigns (who?).	
	2b. Two-speed doping – rich and poor.		
3. Athletes: wealthy clubs/sports which use or have access to unknown products or techniques.	**3.** Emergence of a parallel market.	**3a.** Organisation of longitudinal supervision of athletes (health perspective).	**3a**. Example made of managers, athletes, doctors, etc.
		3b. Need to draw up a list of 'possible' products and keep this up to date.	
4. Poor image of the sport.	**4a.** Fall in numbers. **4b.** Lack of interest in competing.		
5. Need to introduce 'health' supervision.		**5.** Create supervisory bodies. Obligation for supervision by a specified body, or failing that, a ban on competing.	**5.** If there is no supervision, then banned from competing.

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http://www.uefa.com/MultimediaFiles/Download/uefa/KeyTopics/480392_DOWNLOAD.pdf
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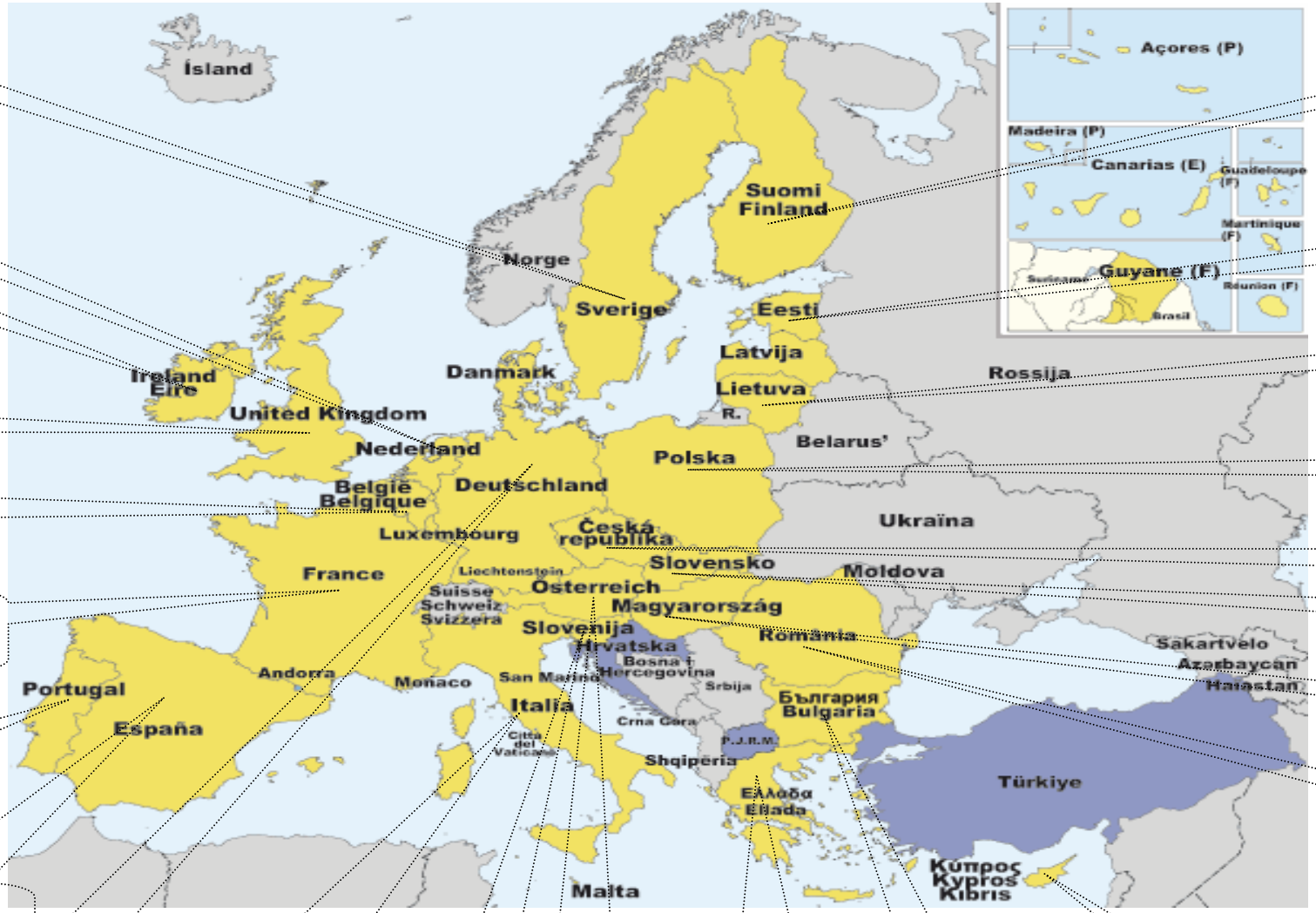
Annex 1 – Positive cases of doping in athletics (IAAF) in EU Member States between 2003 and 2007



2 positive cases

2 positive cases

2 positive cases

8 positive cases

12 positive cases

42 positive cases

4 positive cases

13 positive cases

14 positive cases

12 positive cases

3 positive cases

2 positive cases

12 positive cases

3 positive cases

1 positive case

2 positive cases

1 positive case

2 positive cases

6 positive cases

3 positive cases

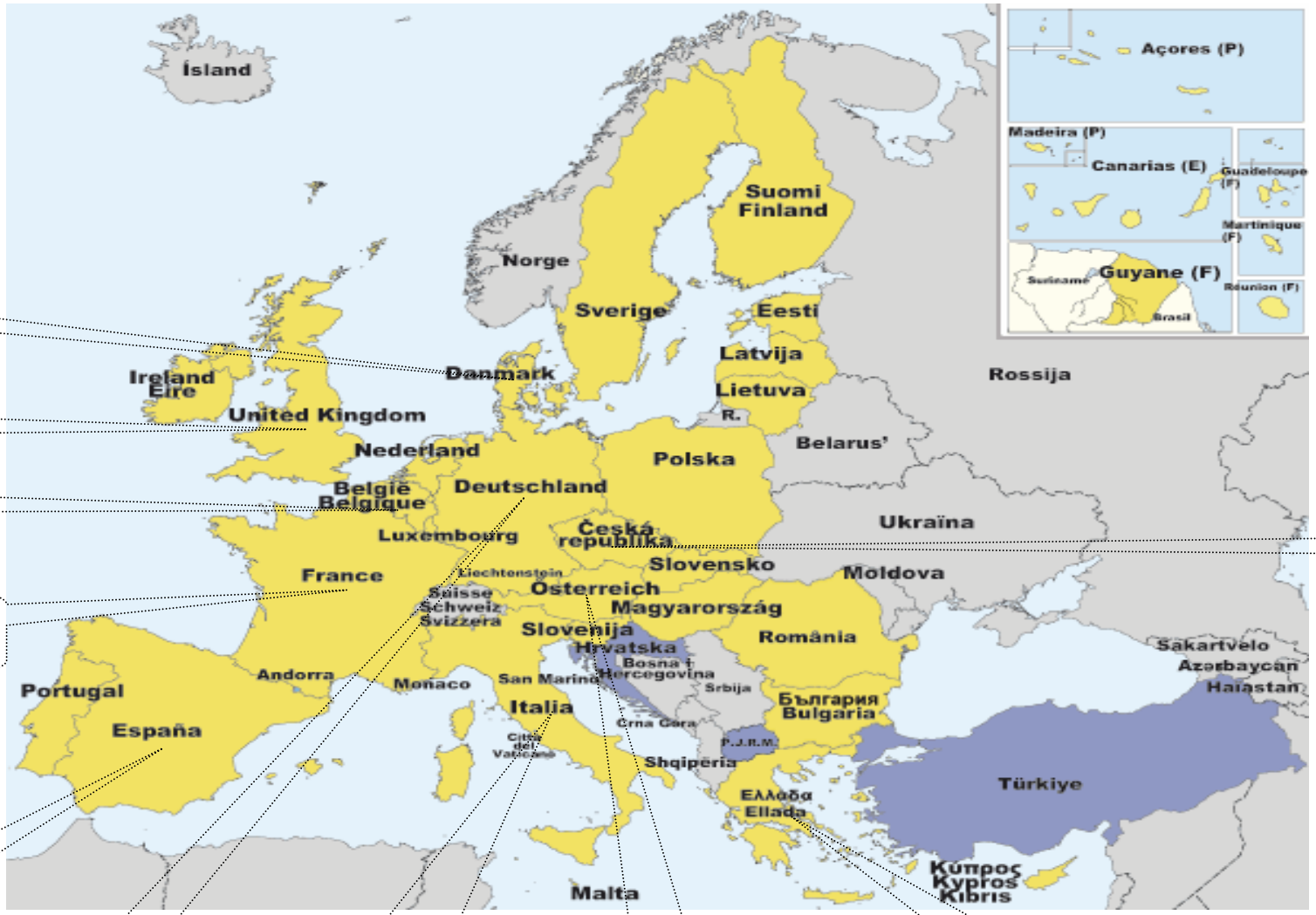
3 positive cases

7 positive cases

10 positive cases

Annex 2 – Positive cases of doping in cycling (UCI) in EU Member States, 2006 and 2007 seasons

Annex 3 – Positive cases of doping in swimming (FINA) in EU Member States between 2003 and 2007



1 positive case

2 positive cases

3 positive cases

22 positive cases

1 positive case

1 positive case

13 positive cases

67
2 positive cases

1 positive case

1 positive case

Annex 4 – People interviewed

Medical sector:
Olivier Rabin, Science Director of the World Anti-Doping Agency.
Martial Saugy (Director, Lausanne Anti-Doping Laboratory, creator of the biological passport)
Anik Sax, doctor and head of service, Ministerial Department of Sport, Luxembourg
Frédéric Depiesse (member of the Medical Committee of the European Athletics Association and of the International Amateur Athletics Federation)
Patrick Magaloff (pharmacist, CNOSF, member of the French National Academy of Pharmacy)

Legal sector:
Alix de Courten (solicitor in Lausanne, participated in writing the World Anti-Doping Code)
Jean Christophe Lapouble (solicitor, expert for the Council of Europe)
Florent Dousset (barrister in employment law)
Cédric Aguet (solicitor, Geneva)

Sponsors:
Jean Reveillon (President of the European Broadcasting Union)
Christian Kalb (Communication Manager for La Française des Jeux)

Anti-doping institutions:
Bart Coumans (Netherlands anti-doping agency)
Håkan Nyberg (manager of the anti-doping programme of the Swedish sports confederation)
Philippe Dautry (secretary general of the French anti-doping agency)
Gustavo Savino (pharmacist, regional anti-doping centre of the Emilia-Romagna region)

Police, customs:
One member of OCLAESP
One member of the French customs service

Sportsmen:
Nicolas (participated five times in the Tour de France)
Damien (participated twice in the Tour de France)

Annex 5 – Researcher contact details

1. Working group in sports physiology and biology of exercise: Movement, Sport and Health (M2S) Laboratory at the European University of Brittany – Rennes 2

www.uhb.fr/labos/LPBEM/M2S

Paul Delamarche: Professor – Director of M2S Laboratory
e-mail: paul.delamarche@univ-rennes2.fr

Arlette Gratas-Delamarche: Professor – Doctor – 'Exercise and Metabolic Dysfunction' Team Director at M2S Laboratory
e-mail: arlette.delamarche@univ-rennes2.fr

Françoise Rannou- Bekono: Professor – Biologist – 'Exercise and Metabolic Dysfunctions' Team Member at M2S Laboratory
e-mail: francoise.rannou@univ-rennes2.fr

Hassane Zouhal: Lecturer, research director – former elite athlete – 'Exercise and Metabolic Dysfunctions' Team Member at the M2S Laboratory
e-mail: hassane.zouhal@univ-rennes2.fr

2. Working group in sport sociology: Sociology Research Laboratory at the European University of Brittany – Rennes 2

http://www.uhb.fr/sc_humaines/las/spip.php?rubrique45

Dominique Bodin: Lecturer – Director of LARES EA 2241
e-mail: dominique-bodin@univ-rennes2.fr

Anne Deflandre: Lecturer
e-mail: anne.deflandre@univ-rennes2.fr

Luc Robène: Lecturer
e-mail: luc.robene@univ-rennes2.fr

Peggy Roussel: Lecturer
e-mail: peggy.roussel@univ-rennes2.fr

Gaëlle Sempé: PhD student
e-mail: gaelle.sempe@univ-rennes2.fr

3. Working group in legal sciences: Laboratory for the study of Public Law – Université Rennes 1

http://www.ledp.univ-rennes1.fr/

Eric Péchillon: Lecturer
e-mail: eric.pechillon@univ-rennes1.fr

Xavier Pirou: Doctor of Law

e-mail: xavier.pirou@univ-rennes1.fr

4. Sport sociology research centre: Laboratory of the Meaning, Ethics and Society Research Centre, CNRS-Université Paris Descartes UMR 8137

Christophe Brissonneau: Doctor of Sport Science
e-mail: c.brissonneau@univ-paris5.fr

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