Scientific Integrity and Anti-Doping Regulation

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What is the problem?

Arbitrary vs. Evidence-based decision making

SO THEN I SAID
EACH COUNTRY WILL TEST THEIR OWN ATHLETES
Arbitrary decision making

Under the Swiss Constitution and Swiss Code of Civil Procedure:

“an arbitral award will be set aside if it is arbitrary in its result because it is based on findings that are manifestly contrary to the facts”
Evidence-based decision making

“the conscientious, explicit, and judicious use of current best evidence in making decisions” (Sackett et al. 1996)
Starting point for this talk

- Anti-doping regulation should be based on the “the conscientious, explicit, and judicious use of current best evidence”
- Anti-doping regulation should not be “based on findings that are manifestly contrary to the facts.”

As occurs in competition, anti-doping regulation should be evidence-based and not arbitrary.
The importance of evidence to the proper functioning of anti-doping regulation is not controversial

• “Science is so fundamental to the fight against doping that it can truly be considered a pillar of modern anti-doping regulations, both for their design and for their enforcement” (Viret 2015)

• “The entire anti-doping system presupposes that, and can only work if, WADA-accredited laboratories actually operate in accordance with the International Standard for Laboratories and in accordance with their own Standard Operating Procedures. The credibility of the system also requires that laboratories be seen to operate in accordance with these standards: any doubts about one laboratory could very quickly jeopardise the entire system.” (CAS 2009)
The problem

Evidence and experience show unambiguously that anti-doping regulation under the World Anti-Doping Agency (WADA) is unnecessarily arbitrary and, too often, not-evidence based.
Evidence and experience in support of the problem

1. Prevalence of doping
2. Construction of the prohibited list
3. Flawed sanctioning
4. Evaluation of anti-doping regulation
1. Questions without answers

- Prevalence of doping
  - How many elite athletes dope?
  - How has this number changed over time?
  - What interventions modulate prevalence?

We have very little insight to the answers to these questions, and not because they are unanswerable.
“There is no general appetite to undertake the effort and expense of a successful effort to deliver doping-free sport.”

WADA 2012
Efforts to suppress evidence

• Prevalence of doping

Doping experts have long known that drug tests catch only a tiny fraction of the athletes who use banned substances because athletes are constantly finding new drugs and techniques to evade detection. So in 2011, the World Anti-Doping Agency convened a team of researchers to try to determine more accurately how many athletes use performance-enhancing drugs.

More than 2,000 track and field athletes participated in the study, and according to the findings, which were reviewed by The New York Times, an estimated 29 percent of the athletes at the 2011 world championships and 45 percent of the athletes at the 2011 Pan-Arab Games said in anonymous surveys that they had doped in the past year.

By contrast, less than 2 percent of drug tests examined by WADA laboratories in 2010 were positive.

The researchers were eager to publish their results, which they believed would expose a harsh reality of modern sports: that far more athletes are doping than might be imagined, and that current drug-testing protocols catch few of the cheaters. But after a final draft of the study was submitted to the antidoping agency, the organization ultimately told the researchers they could not publish their findings at this time, according to three of the researchers, who requested anonymity because they signed nondisclosure agreements with the agency. The agency said track and field’s world governing body needed to review the findings first, the researchers said.

Recently was submitted to a scientific journal. Best case: published in 2018.
Why don’t we have this information?

“There is virtually no incentive out there to catch anyone. It makes sports leaders look bad, and it makes national leaders look bad. Stakeholders want to demonstrate numerical compliance with test requirements. But there is no incentive to identify dopers.”

Richard Pound, 2013
2. The “three criteria” of the WADA Prohibited List are not evidence-based (despite the WADA Code)

- Construction of the prohibited list

PART 1 Doping Control

ARTICLE 4 The Prohibited List

4.3 Criteria for Including Substances and Methods on the Prohibited List

WADA shall consider the following criteria in deciding whether to include a substance or method on the Prohibited List:

4.3.1 A substance or method shall be considered for inclusion on the Prohibited List if WADA, in its sole discretion, determines that the substance or method meets any two of the following three criteria:

4.3.1.1 Medical or other scientific evidence, pharmacological effect or experience that the substance or method, alone or in combination with other substances or methods, has the potential to enhance or enhances sport performance;

4.3.1.2 Medical or other scientific evidence, pharmacological effect or experience that the Use of the substance or method represents an actual or potential health risk to the Athlete;

4.3.1.3 WADA’s determination that the Use of the substance or method violates the spirit of sport described in the introduction to the Code.
"With two out of the three criteria being sufficient for placing something on the List, one could put anything on the List"

Prof. Arne Ljungqvist, WADA 2012
“The Code’s wording has been put so that we would not have to justify why a substance is on the list. We have experts who look at it, they have three criteria. It has to meet two of the three and we never disclose nor discuss the specifics of a substance because otherwise, every time you have a positive case, there would be a challenge.”

Olivier Niggili, WADA COO and General Counsel 2016
“Can a system that justifies itself through its scientific foundations (i.e. performance enhancement and protection of the Athlete’s health) disregard these same foundations on the ground that the system could not be upheld otherwise?”

Marjolaine Viret 2015
3. Many cases showing arbitrary decision making in sanctioning of athletes

- Flawed sanctioning
  - Inconsistent rulings (Clenbuterol)
  - False positives (Paola Pliego)
  - Wrongly convicted (Steven Colvert)
  - Incomplete science (Meldonium)
  - Lack of due process (Erik Tysse)
  - Differential treatment (Adam Seroczynski)
  - Laboratory shortfalls (Mamadou Sakho)
  - Ad hoc decisions (Russian Rio eligibility)
Complete breakdown – Steven Colvert
Is this evidence-based or arbitrary decision making?

How do we know that Colvert had rEPO in his urine?

7 A. Well, I would agree that in finding a sample which has such low doses of recombinant EPO, you need to be expert to clearly identify it and what is in my opinion quite important because we have been talking mostly

2. A sample cannot be declared positive or negative depending on the subjective opinion and/or experience of the laboratory staff according to the maxim "I know it when I see it". Rather it is imperative that the laboratory applies reliable and verifiable criteria, making it possible for third parties to objectively understand the conclusions reached.
A second, and a third, opinion . . .

“"It is obvious that something is wrong and the problem must be clarified before making any judgement on whether or not Steven Colvert did use rEPO. If not clarified, the only fair decision should have been to drop the case against Colvert, and give the WADA laboratories feedback that they must improve the rigour of their analyses."


"If the [original WADA] laboratory expert was correctly quoted, he made a mistake when he stated that the amount of recombinant was small when compared to the endogenous EPO."

Ayotte 2016 (WADA laboratory director)
Does a Clenbuterol sanction depend upon the color of your flag?

2008 Olympics in Beijing

Clenbuterol - Food contamination or conscious doping?

Sportschau | 09.04.2017 | 05:32 Min. | Verfügbar bis 09.04.2018 | Das Erste

Resedues of Cenbuterol were found in samples of several athletes of the Olympic Games 2008. This begs the question, if this was caused by unconscious ingestion of contaminated meat or conscious doping.
Evidence-based decision making, or ...

Canadian researcher Christiane Ayotte of the WADA-accredited testing lab in Montreal ... told ESPN that even miniscule amounts of [Clenbuterol] can be used for doping purposes.

"You'll never find a ton of it, because the doses are really small," Ayotte said, adding that her lab frequently finds similarly low levels of the drug in athletes' samples. . .

"Just because it's small doesn't mean it's not doping. ... This is just the dopers adjusting, or misadjusting, to the testing."

Ayotte hopes that regulations will continue to allow adverse analytical findings for any amount of the drug, and that no lower limit will be set for its detection.

... Arbitrary decision making?

After the ARD expose of the IOC/WADA cover-up of Jamaican sprinter Clenbuterol positives →
Meldonium – A rush to list & sanction
4. What works in anti-doping regulation?

- Evaluation of anti-doping regulation
Example: Education to prevent doping?

“WADA believes that a long-term solution to preventing doping is through effective values-based education programs that can foster anti-doping behaviors and create a strong anti-doping culture”

WADA Website 2017
https://www.wada-ama.org/en/education-awareness
“Educating athletes about the effects of drugs, and specifically the adverse effects, may be a means of deterring drug use. However, this contention is not supported in the present review.”

WADA 2008
So, what actually works in anti-doping?

“Policy developments to prevent and detect doping in sport have moved rapidly and in advance of scientific research. This is important because policy informed by robust evidence is likely to be more effective and sustainable than that built on assumptions or ‘common sense’. The lack of evidence on the effects of anti-doping interventions remains a concern and highlights a significant need for investment.”

WADA 2016
Too much arbitrariness in anti-doping regulation

1. Prevalence of doping
   How many athletes dope? (unknown)

2. Construction of the prohibited list
   What are the performance enhancement & health risks of substances on the prohibited list? (unknown)

3. Flawed sanctioning
   What is the false positive conviction rate? (unknown)

4. Evaluation of anti-doping regulation
   What interventions work to address doping? (unknown)
Recommendations – What to do

1. Systematically assess doping prevalence using methods applied by WADA in 2011 study
2. Place the Prohibited List on a more solid empirical foundation
3. Enhance the due process rights of athletes in the sanctioning process
4. Rigorously evaluate anti-doping policies based on evidence of what works

Understanding **WHAT** should be done to place anti-doping regulation on a more solid foundation of evidence is much easier than **HOW** it might actually be achieved.
Recommendations – How to do it

1. WADA needs more independent oversight and accountability (CAS as well)
2. WADA should periodically undergo a comprehensive review by independent experts
3. Athletes should have greater voice in anti-doping regulation
4. Leaders within anti-doping and sports organizations should endorse a greater role for evidence and independent expertise throughout anti-doping

WHO might support such ideas?

Anti-doping organizations, leading athletes, governments, sponsors . . .
Thank you

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