Striking the Right Balance - Effectiveness of Anti-Doping Policies

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Contents

• Thesis approach
• Studies & results
• Directions/Conclusions
Methodology

- As neutral as possible
- Not independent (NADO)
- Peer-reviewed articles
- Existing & new data
- Practical & policy oriented
- Umbrella view; tennis umpire
Traditional doping ‘effectiveness’

- # Controls
- # Adverse Analytical Findings
- # Educational sessions
- Knowledge of athletes
- Knowledge of others
- $, €, £, ¥
- Compliancy to WADC
- As long as athletes are caught...
Effectiveness/efficiency/efficacy

- “the degree in which current policies succeed in eradicating doping in sport”

Next step: striking the right balance (in terms of burdens, money, ...)

- Extent of doping
- Effectiveness of doping substances
- Consequences for athletes
Intentional doping (elite athletes)

- We will never know for sure
- Based on Randomised Response Questionnaires & biomarker-based modelling
- Estimate: 4-62% in various groups of athletes
- Differs with type of sport, level, nationality
- Needs to be studied far more often
- In any case: (much) higher than AAF/ADRV%
Intentional doping (continued)

- Parameters should be agreed upon globally
- Other candidates:
  - Perception of athletes regarding influence of doping on competitive results
  - Mathematical analyses of changes in performance over time
  - Outcomes of re-analysis of stored samples
  - ...

Source: De Hon et al. 2015
Unintentional doping

- Analysis of WADA’s juridical database 2010-2012
- 8 sports, 1831 AAFs, 363 non-AAF ADRVs
  - In 42% of all ADRVs the athletes were deemed to be less at fault (based on sanction period)

Source: De Hon & Van Bottenburg, 2017
Effectiveness of doping substances

- Flexible prohibited list increases effectiveness
- More transparency will increase credibility
- Doping regulators should focus on doping tasks
- Decisions are often made in absence of evidence

Sources: De Hon & Hartgens 2000; Kuipers et al. 2008; Pluim et al. 2011; Van der Gronde et al. 2013
Consequences of doping policies

- Data required on impact of *whereabouts-rule*
- **Athletes need to be supported** in doping-free behaviour
- **Athletes need to be engaged more**
- **Non-competitive fitness athletes** are an important learning possibility; often overlooked

Sources: Valkenburg et al. 2014; De Hon & Coumans 2007; Stubbe et al. 2014
General conclusions

• Highly complex area
• Many dilemmas, huge challenges
• Good intentions are not enough...
General conclusions (continued)

- More information is needed on:
  - Levels of intentional & unintentional doping
  - Effects of doping substances and methods
  - Contents of Prohibited List
  - Backgrounds of doping analyses
  - Variability in doping sanctions
  - Impact of anti-doping measures on the daily lives of athletes & athletic performances
  - ...
General conclusions (continued)

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General conclusions (continued)

• Currently, effectiveness cannot be identified
• But: tools are readily available

➢ Absolutely necessary to explain and improve current doping policies
Thank you!

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Published articles

- De Hon O. The redundancy of the concept of ‘Spirit of Sport’ in discussions on the prohibited list of doping substances. Int J Sport Policy Politics. doi: 10.1080/19406940.2017.1348380
Coat rack

What do we need?

- More branches?
- Bigger stem?
- Different base?

1928

1960s - 2004

2004 - present
Randomized Response Method

- Used in many ‘socially sensitive’ subjects
- Offers protection by means of deliberate mathematical confounder
- Example:

  Have you ever used doping in order to improve your athletic performance?
Simplistic example of RRM

- Coin toss (do NOT show outcome to others)
- Finger in air when tails & intentional doping
- In this example: 20% intentional doping use
On ‘Population estimates’ (1)

- For example: 20 random hemoglobin-values:

  A: 13,0; B: 15,1; C: 17,2; D: 13,3; E: 13,6;
  F: 16,9; G: 14,3; H: 16,6; I: 13,1; J: 15,5;
  K: 15,9; L: 16,3; M: 17,6; N: 16,7; O: 13,9;
  P: 17,1; Q: 13,2; R: 17,3; S: 17,5; T: 14,6 g/dl.
On ‘Population estimates’ (2)

• You list the values in order:


Which yields a graph:
Population estimates

- Blood profile indicators
  (here: 16% estimate of blood-based doping)

Source: Sottas et al. 2008
Multidisciplinarity

anthropology

psychology

medicine

chemistry

ethics

economics

governance

DOPING AUTORITEIT

criminology

sociology

philosophy

physiology

toxicology
Transparancy
Focus
Voice of the athletes