play true

The ABP in 2018 – Status Report

WADA ABP Symposium – 5-7 November 2018

Dr. Reid Aikin, ABP Manager, WADA

WORLD ANTI-DOPING AGENCY

Protect the clean athlete

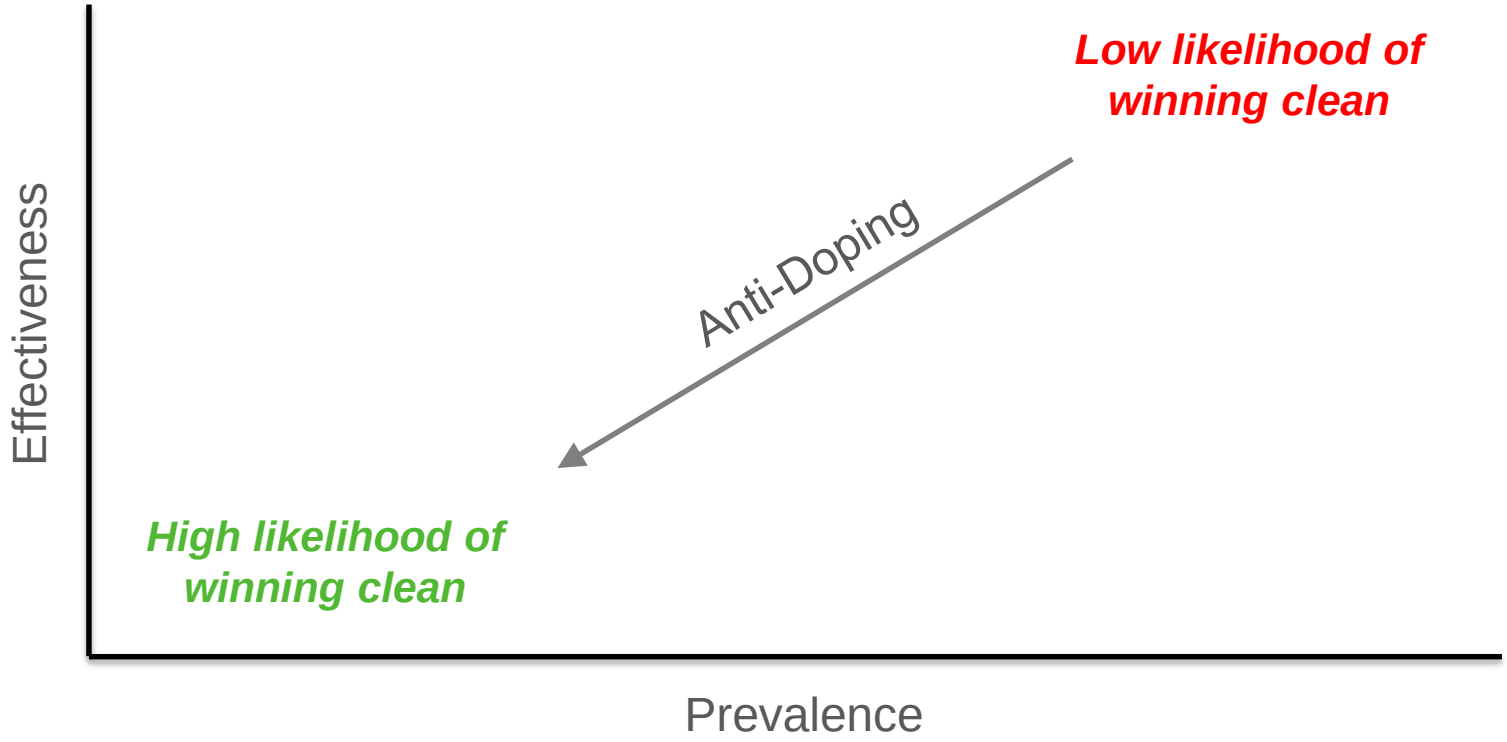
Towards an even playing field

- Reduced prevalence
  - Prevention
  - Deterrence
  - Detection

- Reduced effectiveness
  - Reduced dose
  - Less potent substances
  - Altered timing of doping

Increase the likelihood that a clean athlete can win

Doping prevalence and effectiveness are independent



Anti-doping toolbox

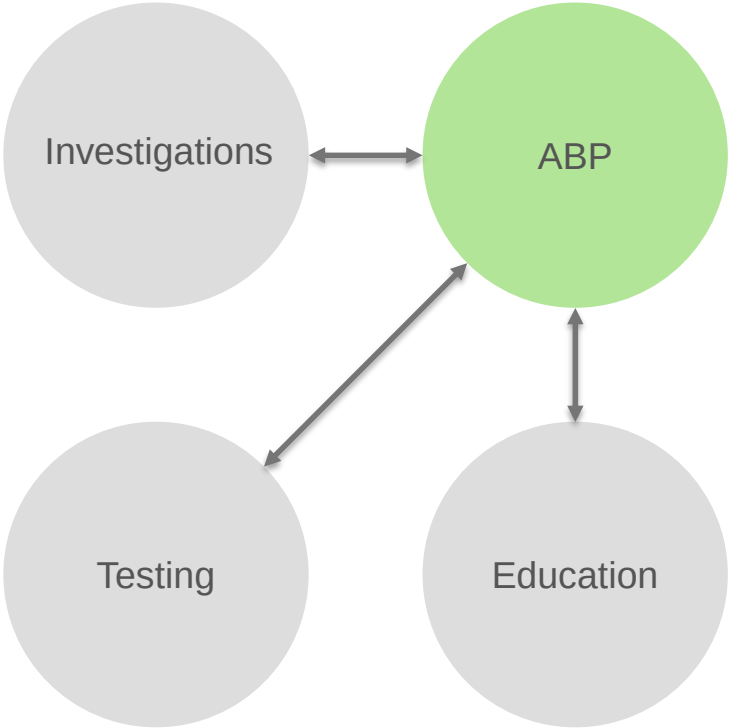
Investigations

ABP

Testing

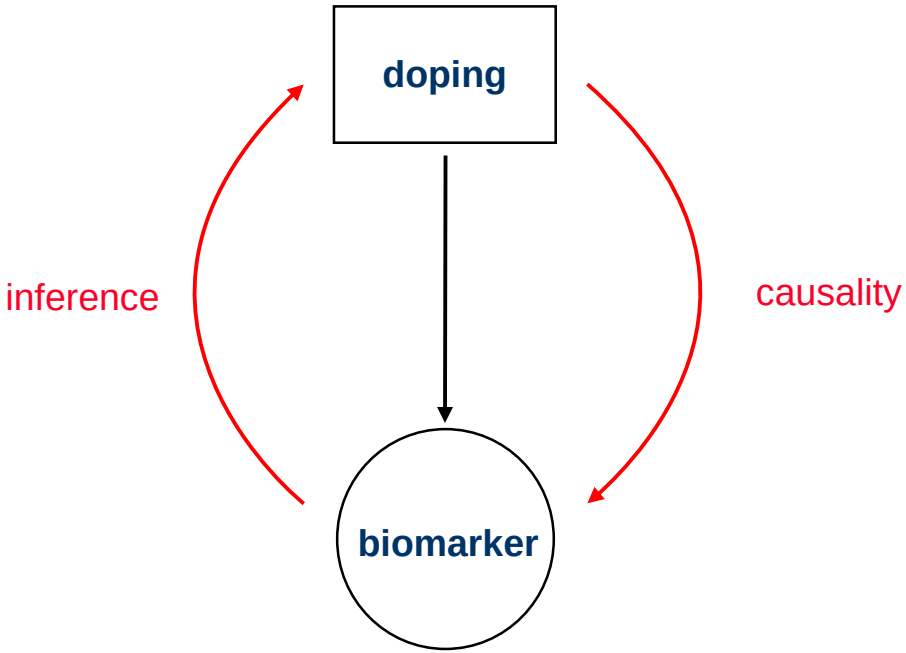
Education

This Symposium



- How can I optimize my role within an ABP program?
- How can I optimize my ABP program?
- How can I optimize the integration of my ABP program within my overall anti-doping strategy?

Detecting doping



Cause

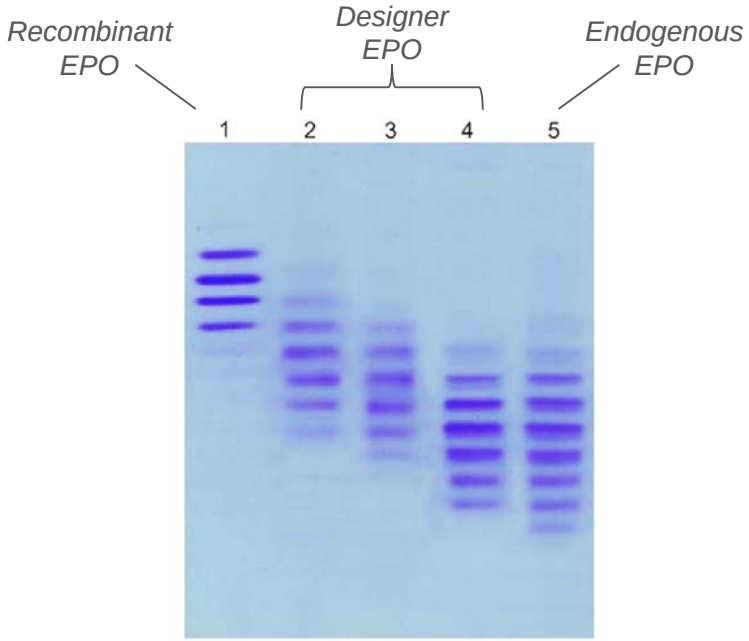
Substance detection

Metabolites

Effect

Biomarkers of doping

Why do we need biomarkers?



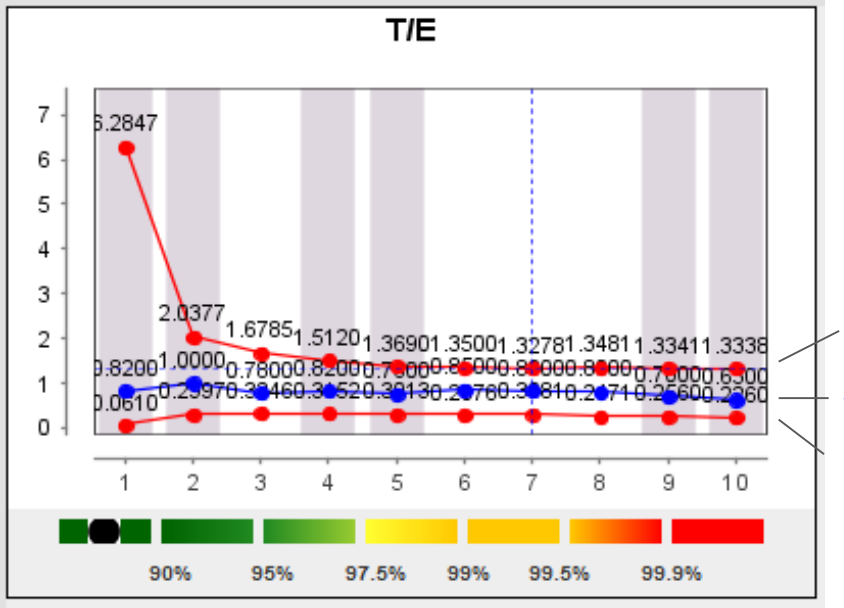
- Some substances are not easily detectable
- Some substances are rapidly metabolized
- New substances are continuously developed
- Measuring the effect complements substance detection

How do we use biomarkers to infer doping?

Solution: longitudinal profiling using the ABP

1. Personalized thresholds based on athletes own values.

2. Increased sensitivity.



Automated Process

- One Athlete – One Passport
- Automated calculation and alerts
- Passport sharing
- WADA monitoring

Modules of the ABP

Haematological Module - 2009

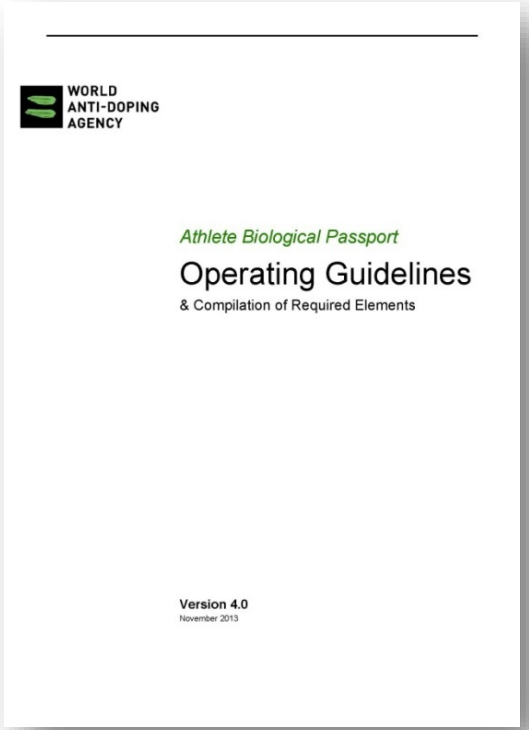
- Aims to detect blood doping
- Matrix – EDTA blood samples

Steroid Module - 2014

- Aims to detect steroid doping
- Matrix – urine samples

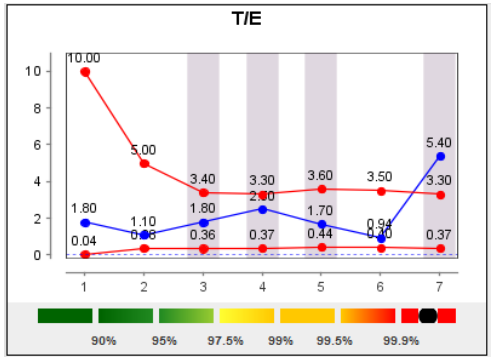
Endocrine Module

- Under development
- Goal to detect GH doping



Translating biological data into specific actions

Biological Data



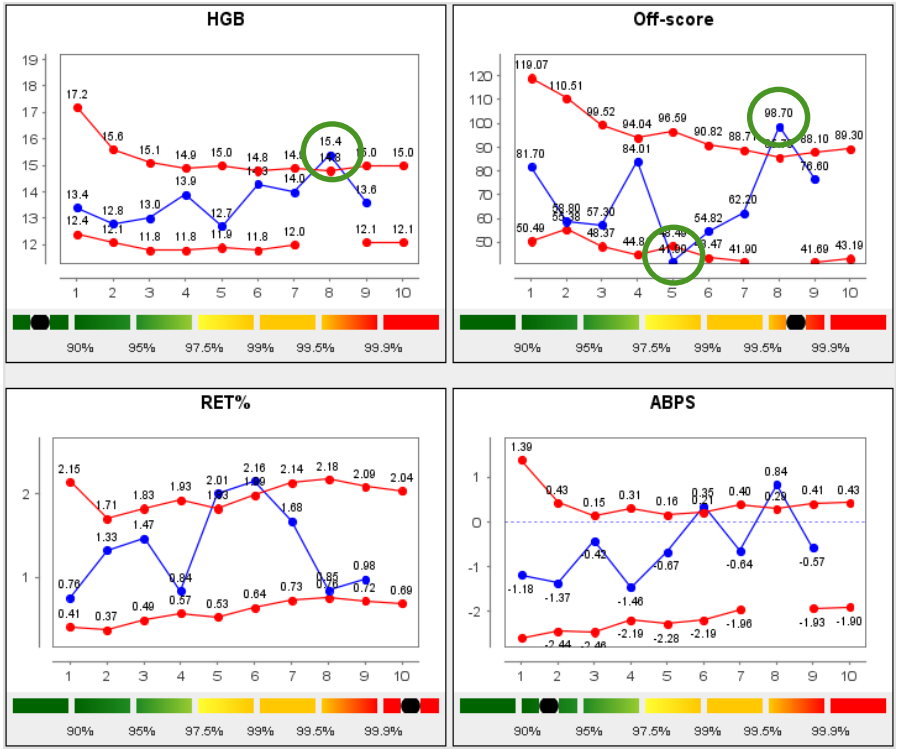
Action

- Specific analyses
- Expert Panel Reviews
- Target Testing
- Sample Storage
- Intelligence gathering

ADRV

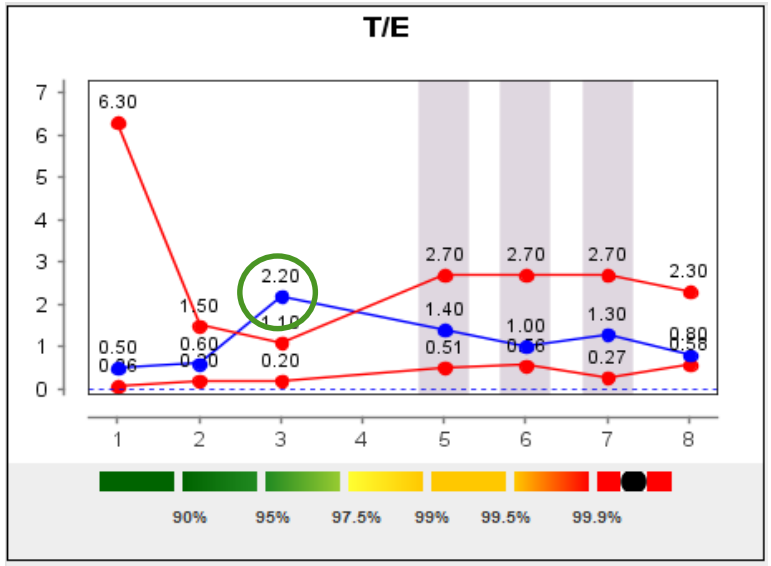
- Direct detection (Article 2.1)
- Passport case (Article 2.2)
- Investigations (Articles 2.5-2.10)

The ABP can be used to directly sanction athletes



The ABP can direct sample analysis – what to test for?

Population based limit →



ATPF

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Automatic IRMS

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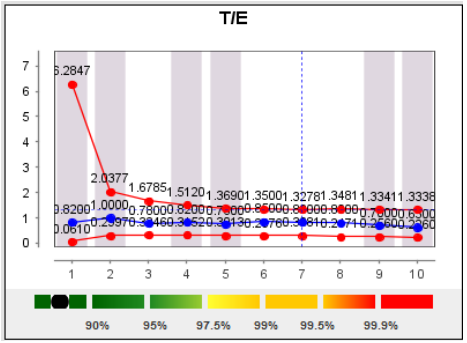
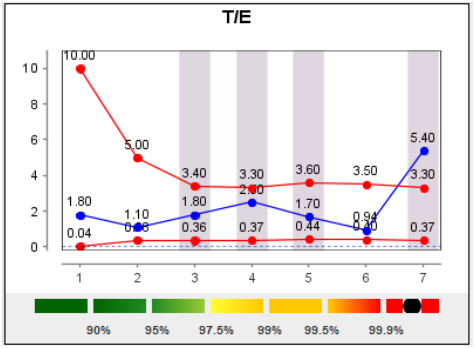
Sanction

The ABP can direct testing – who to test?

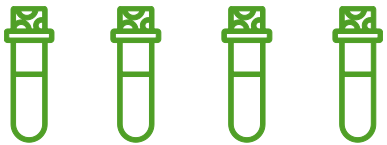
Athlete 1



Athlete 2



Reduce testing

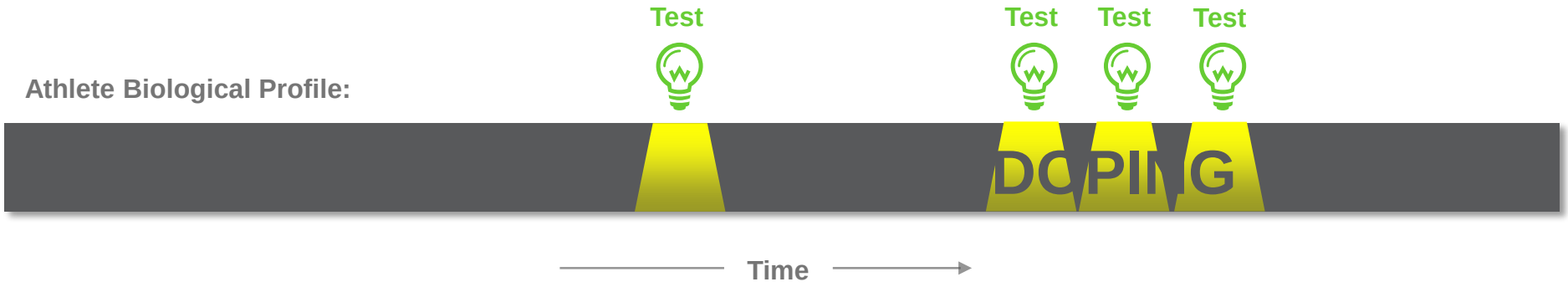


Increase testing

The ABP can direct testing – when to test?

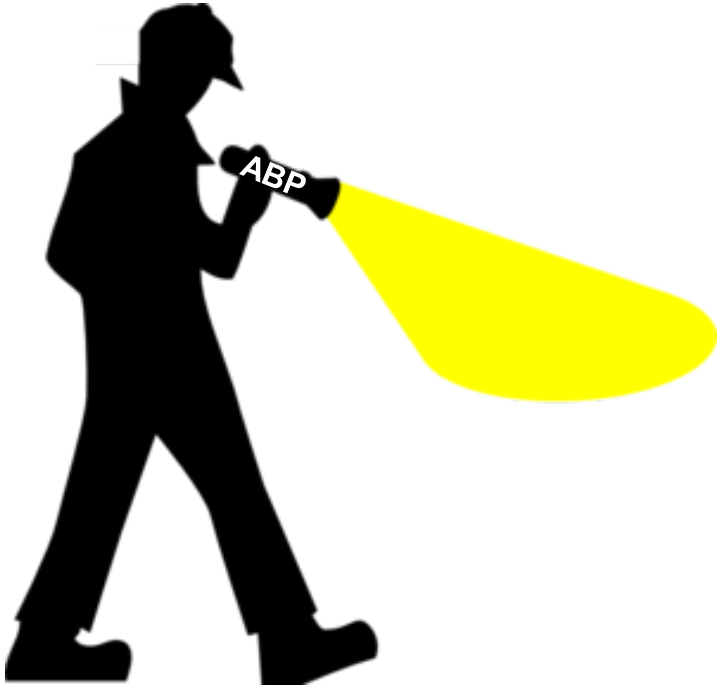
- Reactive testing is critical.

- Individual samples can support the evidence in neighboring samples and be linked together into one biological response to doping.

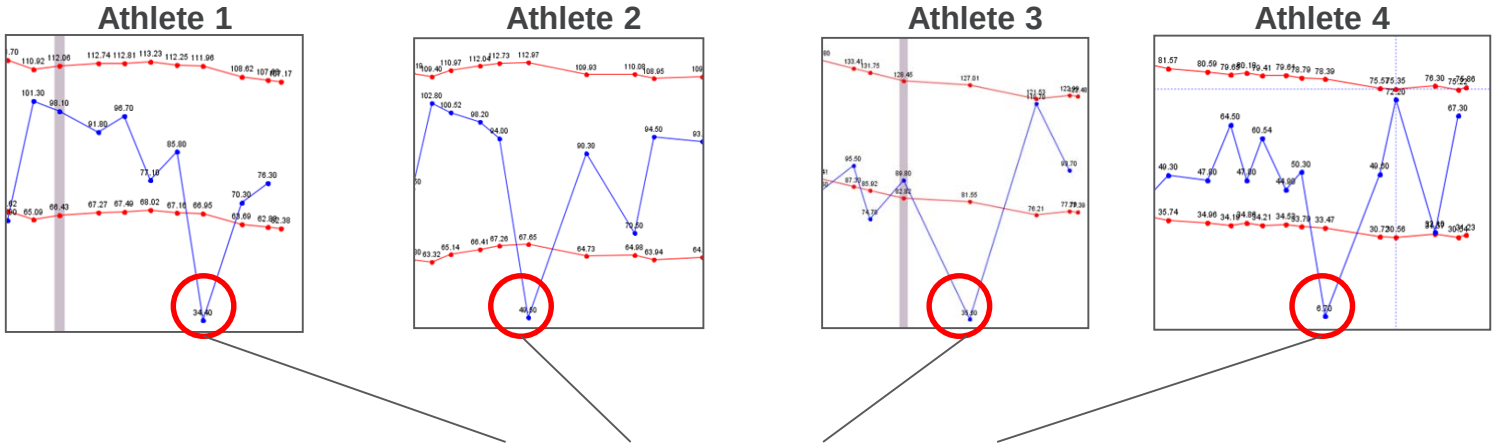


The ABP can be used to direct investigations

- The ABP provides robust forensic evidence
- Correlate with other intelligence
- Identify individuals and group of athletes



Spatial-temporal analysis of ABP patterns



Same date, same place

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Discovery of Blood Transfusion Equipment

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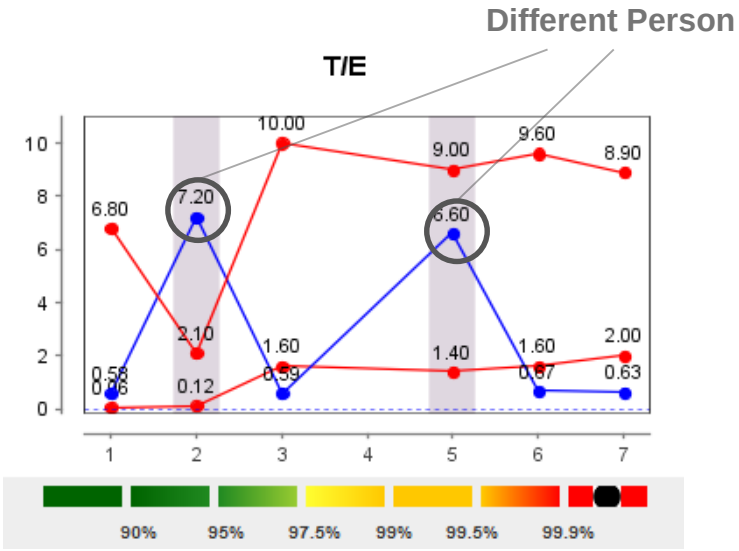
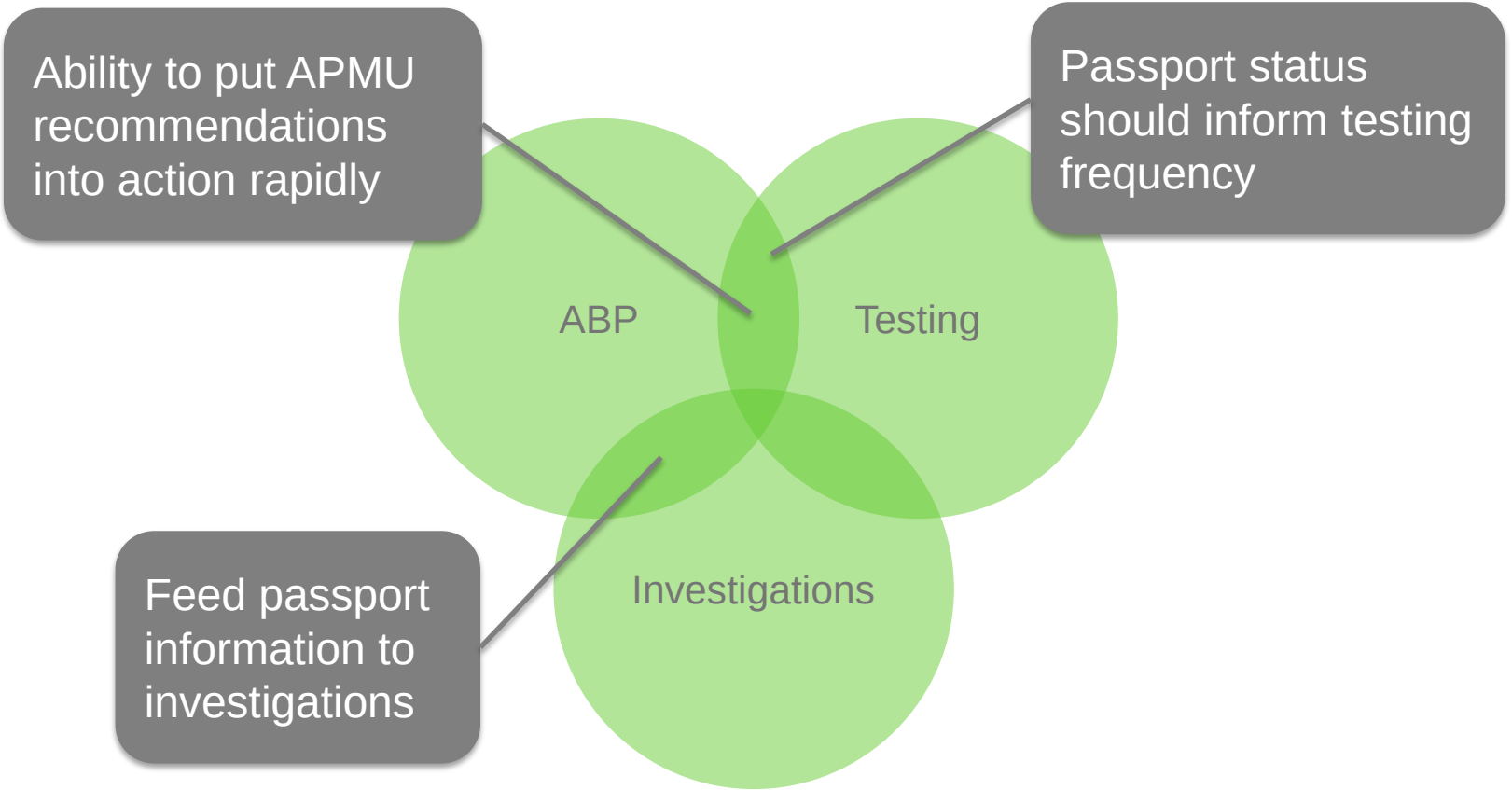
Team-level doping

The steroid module assists in fighting corruption

- Sample switching – DNA analysis
- Confirm sample identify
- Use in investigations

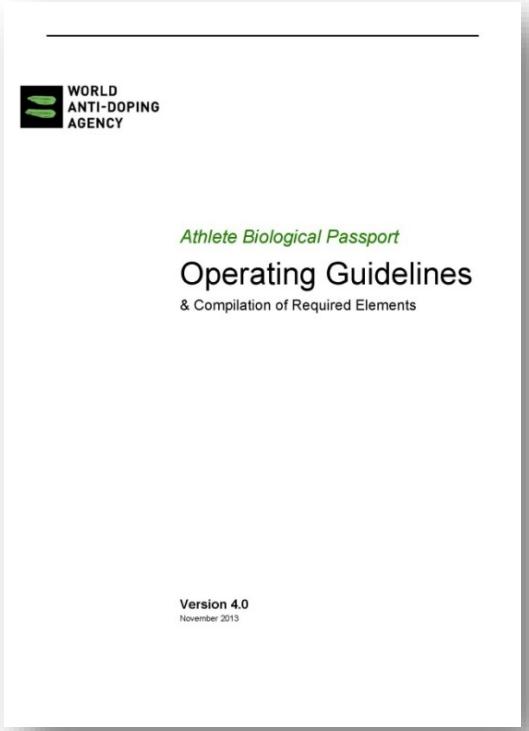


Integration of the ABP into an anti-doping program



Status of the ABP - 2018

Growth in the use of the ABP



- 119 ADOs running compliant ABP programs
- There are presently 113 ADOs working with Lab-associated APMUs (58 NADOs and 55 IFs)
- With growth had come increasing complexity and specialization of individual roles.

Addressing increased specialization in the ABP

- ABP Expert Education strategy
  - Reference Guide for Experts via Adel platform
  - Webinar series
- TD2019APMU
  - Harmonize APMU role
  - APMU approval process
- Improvements to ADAMS
  - Improve communication between stakeholders
  - Provide new tools to manage passports

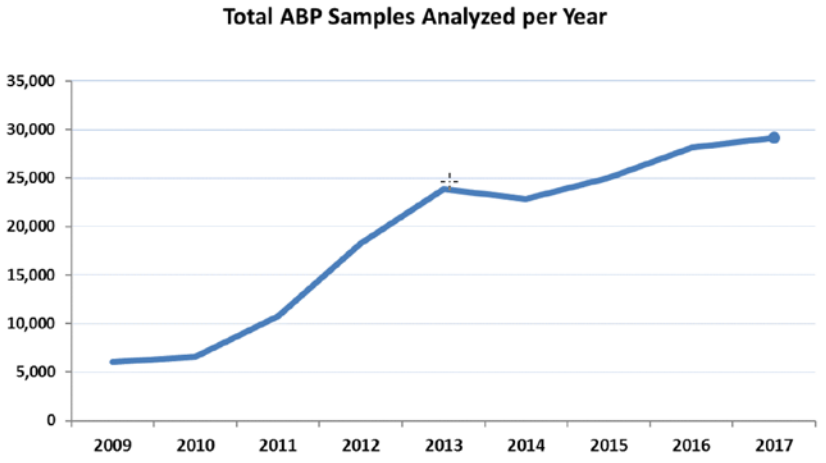
Status of the Haematological Module

- 91 ADOs running haematological module

- ABP Blood testing (2017)
  - 29,130 tests
  - 10,788 athletes
  - Average of 2.7 tests per athlete

- Haematological Module becomes mandatory for endurance sports in 2019 (TDSSA)

- BSS went live in June 2017



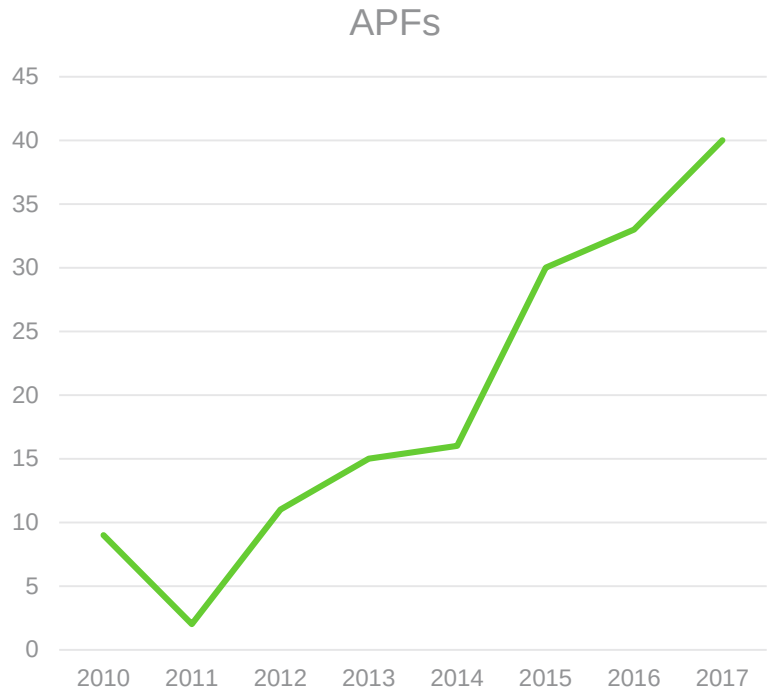
Steroid Testing in 2017

- 224,167 tests (avg 1.5 tests per athlete).
- Of IRMS positives, >75% are on first test.

First Sample	SSP-CPR system fit for purpose
At least two Samples – T/E over 4	Reduction in costs as less IRMS
At least two Samples – T/E less that 4	Increased sensitivity

Adverse Passport Findings continue to increase

- 40 APFs in 2017
- 7 new ADOs declaring APFs in 2017 (15 ADOs in total)
- 5 APFs where no ADRV was delivered



Outcomes of the ABP

- Over 150 athletes sanctioned directly using the ABP
- 30 APFs in results management
- >500 ESA positives
- Improved sensitivity to steroid abuse at low T/E levels
- Efficient targeting of IRMS with longitudinal profiling
- Detection of urine exchange
- Investigations
  - IC, IP, LIMS, Kenya
  - ADOs

Changes in Behavior

- Reduction in atypical passports

- Effectiveness (potency) of doping regimes has significantly diminished
  - Reduced doses, less effective substances.

- Athletes are doping at less effective times
  - Doping during the off-season for training

- Evidence of effects on performances

Increasing the likelihood that a clean athlete can win

Future of the ABP

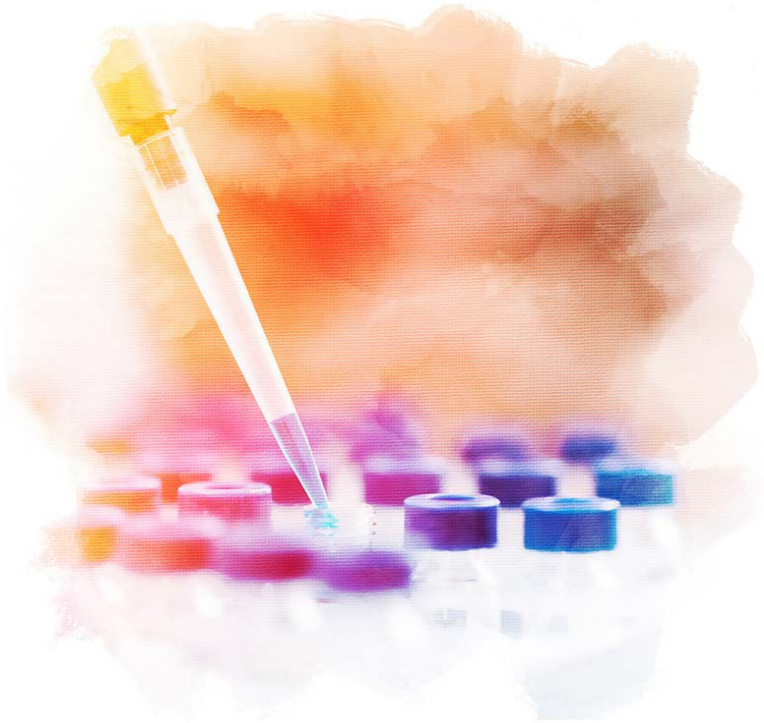
The development of the ABP is driven by stakeholders

- ABP Expert Groups:
  - Haematological
  - Steroid

- Working Groups:
  - BSS
  - APMU
  - Endocrine/IGF-1
  - Biomarker of Doping

Challenges with biomarkers in the ABP

- Limited to blood and steroid doping
- No new biomarkers
- Sensitivity
- Windows of detection
- Important confounding factors without biomarkers



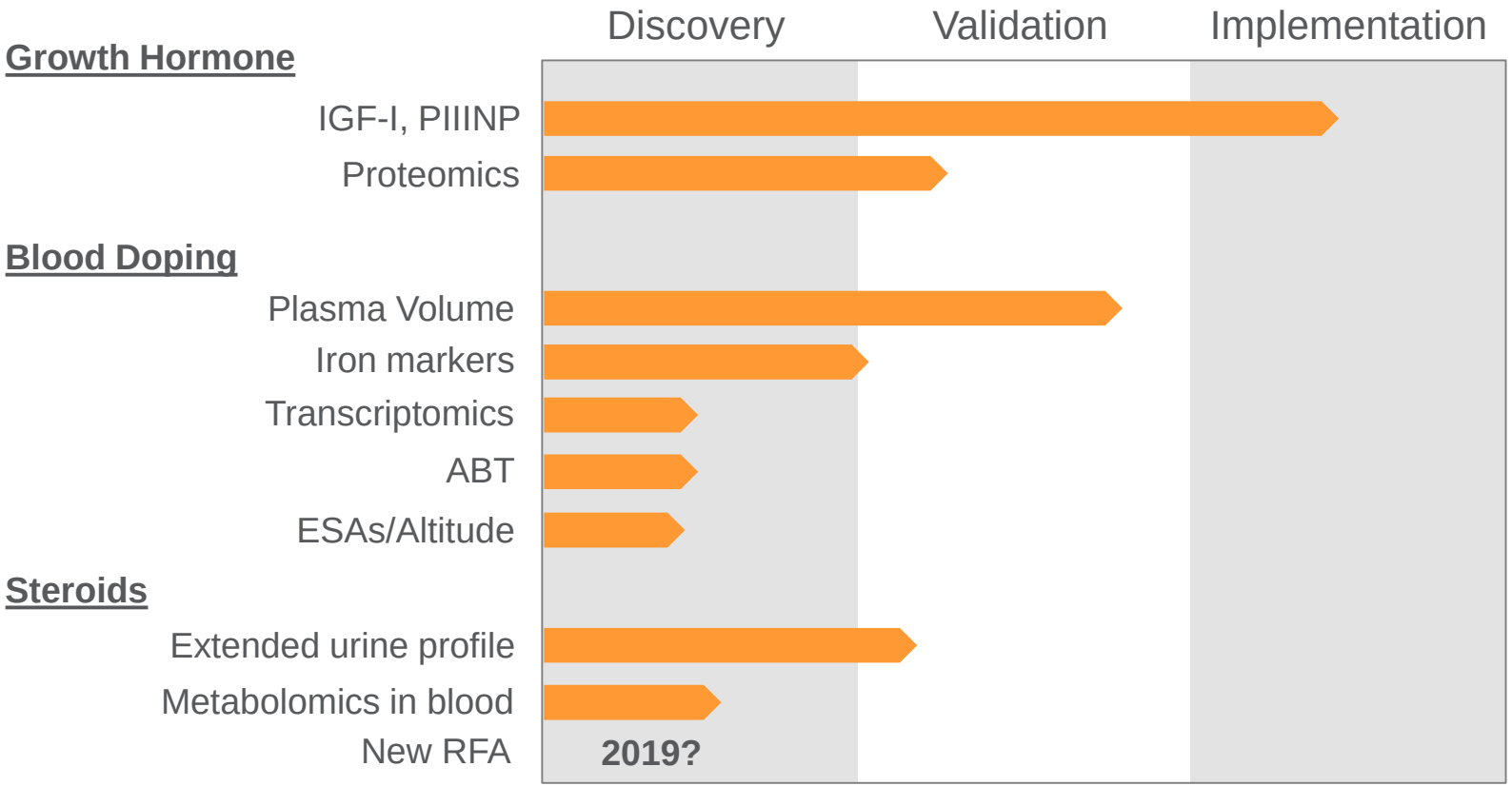
Development of the ABP

- Implemented, legally validated framework to which new biomarkers can continuously be added.
- Strategy – continuously add new biomarkers to the ABP.
- Goal is to make it virtually impossible to dope.

The way forward – WADA Biomarker Working Group

- Targeted research for biomarker discovery
  - First RFA in 2017
- Link with other funding agencies (ex. FRSQ)
- Promote interactions with other biomarker specialists
  - Sample analysis
  - Data analysis
  - Learn from other fields

ABP Biomarker Development Pipeline 2018



Perspectives

- The effectiveness of the ABP is dependent on:
  - Testing quantity
  - Testing quality

- Anti-doping data is growing and becoming more complex.
  - Roles within the ABP are becoming more specialized and complex
  - Data management is increasingly important

- The ABP is reliant on strong collaboration between stakeholders

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