

2018 TESTING FIGURES REPORT QUESTIONS AND ANSWERS

DEFINITIONS

1. What is an Adverse Analytical Finding (AAF)?

An AAF is a report from a [WADA-accredited Laboratory](#) or other [WADA-approved Laboratory](#) that, consistent with the [International Standard for Laboratories](#) (ISL) and related Technical Documents, identifies in a sample the presence of a Prohibited Substance or its metabolites or markers (including elevated quantities of endogenous substances) or evidence of the use of a Prohibited Method.

2. What is an Atypical Finding (ATF)?

An ATF is a report from a WADA-accredited Laboratory or other WADA-approved Laboratory, which requires further investigation, as provided by the ISL or related Technical Documents, prior to the determination of an AAF.

3. What is an Anti-Doping Organization (ADO)?

An ADO is a [Signatory](#) to the [World Anti-Doping Code](#) (Code) that is responsible for adopting rules for initiating, implementing or enforcing any part of the Doping Control process. This includes, for example, the International Olympic Committee (IOC), the International Paralympic Committee (IPC), other Major Event Organizations (MEOs) that conduct testing at their events, International Federations (IFs), and National Anti-Doping Organizations (NADOs).

4. What is a Testing Authority (TA)?

A TA is the organization that has authorized a particular sample collection, whether:

- An ADO; or
- Another organization conducting testing pursuant to the authority of, and in accordance with, the rules of the ADO (for example, a National Federation that is a member of an IF).

5. What is ADAMS?

ADAMS (Anti-Doping Administration and Management System) is a web-based database management tool for data entry, storage, sharing, and reporting designed to assist stakeholders and WADA in their anti-doping operations in line with data protection legislation.

6. What is the Athlete Biological Passport (ABP)?

The fundamental principle of the ABP is to monitor selected variables (‘biomarkers of doping’) over time that indirectly reveal the effect of doping, as opposed to the traditional direct detection of doping by analytical doping controls.

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ABOUT THE REPORT

7. What does the 2018 Testing Figures Report represent?

The 2018 Testing Figures Report (2018 Report) is a summary of all doping control samples analyzed and reported by 31 WADA-accredited Laboratories and five WADA-approved Laboratories for the ABP in 2018. This includes all testing conducted worldwide by Signatories to the Code – in- and out-of-competition for urine; blood and ABP blood data; and the analytical results of such analysis – including AAFs and ATFs.

The 2018 Report offers a comprehensive reflection of global anti-doping testing figures, which allows organizations to observe patterns of doping control programs by sports, organizations, substances and Laboratories, and as a result, adapt their anti-doping strategies accordingly.

The 2018 Report represents the fourth set of global testing data since the 2015 Code came into effect on 1 January 2015.

8. What figures are included in the 2018 Report?

The 2018 Report includes all analyses reported by the WADA-accredited Laboratories and the Laboratories that were approved by WADA to conduct blood testing exclusively for the purposes of the ABP ('Approved Laboratories').

The figures of urine and blood samples (not including ABP samples) are compiled according to the 'Sample Collection Date' (and not the sample 'Reception Date' by the Laboratory) as a result of efforts made by the Laboratories to incorporate the collection date into their ADAMS reporting. It is considered that this will allow TAs to more closely align the ADAMS data with their annual testing programs. These figures are associated with specified sport categories. The figures of ABP samples are still compiled according to the "Reception Date" by the Laboratory as the sample collection date is not a mandatory reporting parameter for the ABP for the Laboratories.

The 2018 Report also includes some data that has not been submitted individually into ADAMS, but instead has been aggregated and included in only the overall testing figure tables. This allows a continuous year-to-year comparison of the overall figures. These aggregated figures are primarily comprised of professional and university testing programs conducted by organizations in North America (e.g. the National Collegiate Athletic Association and the Major Leagues), which are not Code Signatories, although they use WADA-accredited Laboratories in North America. Due to confidentiality provisions within their service contracts, they do not allow reporting of individual data in ADAMS.

9. Did the implementation of the 2015 Code and 2017 International Standard for Testing & Investigations (ISTI) by ADOs [including the Technical Document for Sport Specific Analysis (TDSSA)], impact the results?

Yes.

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The [TDSSA](#) is a mandatory, level two document that came into effect on 1 January 2015. As required under the 2015 Code, ADOs have applied the TDSSA.

The TDSSA is intended to ensure that Prohibited Substances within the scope of the TDSSA, which are deemed to be at risk of abuse in certain sports/disciplines, are subject to an appropriate and consistent Minimum Level of Analysis (MLA) by all ADOs. Under the TDSSA, ADOs are required to conduct an MLA for the following three groups of prohibited substances: Erythropoietin Stimulating Agents (ESAs), Growth Hormone (GH) and GH Releasing Factors (GHRFs).

The findings of the 2018 Report highlight that there was a significant increase in testing by ADOs in these three groups when compared to 2017 with:

- An 18% increase in GH testing (equally due to hGH isoforms and hGH biomarkers testing);
- An 8% (urine) and 5.6% (blood) increase between 2017 and 2018; and
- A nearly 6% increase in total testing for GHRFs.

The 2018 Report also shows an increase in the number of TAs conducting, and sports receiving, testing for the three groups of Prohibited Substances. When compared to 2017, there was an increase in AAFs in two of the three groups with two GH AAFs and two additional GHRF AAFs. The number of ESA AAFs increased in urine; however, the number of ESA AAFs reported in blood decreased.

The 2018 Report demonstrates that the TDSSA continues to have an impact on anti-doping testing programs, achieving a greater level of global harmonization for the testing of these prohibited substances across sports and disciplines and, in turn, providing further protection to clean athletes.

2018 REPORT VERSUS 2017 REPORT

10. How does the data from the 2018 Report compare to the 2017 Report?

Based on all ADAMS and non-ADAMS results reported by the Laboratories, there was a 6.9% increase in the number of overall urine and (non-ABP) blood doping control samples. The number of urine samples overall increased from 294,291 to 312,826 while the number of blood samples increased from 27,759 to 31,351 between 2017 and 2018. If the ABP blood (passport) samples are added to these figures, then an additional 24,258 more samples in total were analyzed in 2018 ([2018 Laboratory Report Executive Summary-- Table 3](#)) than in 2017 ([2017 Laboratory Report Executive Summary – Table 3](#)).

Approximately 60% of the accredited Laboratories had an increase in the total number of overall samples recorded in 2018 compared to 2017.

In terms of AAFs, the percentage of AAFs reported decreased slightly: 1.43% in 2017 (4,596 AAFs from 322,050 samples) to 1.42% in 2018 (4,896 AAFs from 344,177 samples).

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In addition, the percentage of Total Findings (AAFs and ATFs - combined) increased slightly from 1.48% in 2017 to 1.49% in 2018.

There was an increase in the percentage of AAF findings from the gas chromatography combustion isotope ratio mass spectrometry (GC/C/IRMS) test applied to the markers of the steroid profile: 3.01% in 2017 (159 AAFs from 5,279 tests) to 3.52% in 2018 (184 AAFs from 5,231 tests). Furthermore, there was a slight increase in the number of AAF findings from the application of the GH test to blood samples: 0 AAF in 2017 to 2 AAFs in 2018.

Seven of 12 drug classes (S1, S3, S4, S6, S9, P1 and M1) saw an increase in the number of Prohibited Substances reported as AAFs.

There was an increase in the overall number of non-ABP blood samples analyzed: 8.62% in 2017 (27,759 of 322,050) to 9.11% in 2018 (31,351 of 344,177).

There also continues to be a noteworthy rise in testing for the key Prohibited Substances of ESAs and GHRFs, as encouraged by the TDSSA. [*See the previous question for more details.*]

11. Was the 2018 data collected differently than in 2017?

No, the 2018 data was collected using ADAMS, as has been the case since 2012.

The increased use of ADAMS by ADOs to record Doping Control Form (DCF) information into ADAMS has allowed more precise information to be compiled for these Reports. Data related to the tests, such as TA, sport and discipline, were extracted from the DCF where the information was available.

Data not reported into ADAMS (predominantly from professional leagues and universities in North America) was aggregated as per previous years. Since 2012, the Laboratories began reporting negative data in addition to the AAFs and ATFs reported. This has allowed all data - negatives as well as AAFs and ATFs - to be compiled from ADAMS. The details and structure of the data in ADAMS are the reason that the 2012 to 2018 Reports offer a much more thorough view of anti-doping data than the Reports prior to 2012.

As an example, the use of ADAMS has allowed the Testing Figures Reports to differentiate the testing figures by discipline, TA, and in- and out-of-competition testing. This offers stakeholders a more detailed view of the worldwide fight for the protection of clean sport.

12. Are there any differences in format between the 2018 and 2017 Reports?

The two Reports are structurally similar.

For the third year, the 2018 Report includes the number of samples analyzed by the GC/C/IRMS method on 19-norandrosterone and boldenone as per the Technical Document TD IRMS. In the 2018 Report, the number of samples analyzed by the GC/C/IRMS method on formestane and prednisolone/prednisone are also included. ADAMS has continued to allow the reporting of GHRFs, GnRH, Insulin, IGF-I, and hGH biomarkers, when conducted in a

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standardized way. WADA has been encouraging ADOs to conduct more comprehensive testing in line with the TDSSA and, in the 2018 Report, the number of these analyses is included.

Categorization of Sport Disciplines

The sports continue to be compiled in the following eight major categories:

1. ASOIF (Association of Summer Olympic International Sports Federations)
2. AIOWF (Association of International Olympic Winter Sports Federations)
3. ARISF (Association of IOC Recognized International Sports Federations)
4. AIMS (Alliance of Independent Recognized Members of Sport)
5. IPC (International Paralympic Committee)
6. Sports for Athletes with an Impairment
7. Other Sports – Code Signatories
8. Other Sports

The sports data is further differentiated based on the disciplines that are included within the associated IFs' authority and the structure provided by the sport-discipline codes in ADAMS (as determined by the IF).

In addition, the sport figures can differentiate sports within the Olympic program, which emanate from university sport disciplines, e.g. those disciplines that are not likely to be under the authority of the relevant IF. This provides more accurate data than previously with respect to the relevant IFs. The 2018 Report includes more samples that are assigned to specified disciplines than in 2017, which suggests that TAs are incorporating the TDSSA-defined sport disciplines into their sample collection procedures and documentation. This is due to the mandatory entry of DCF information into ADAMS which requires a TDSSA-defined discipline is recorded in the sample data.

For example, the testing figures under ASOIF sport 'Rugby Union' are predominantly data from Rugby Fifteens and Rugby Sevens disciplines, which are under the auspices of World Rugby. Other disciplines categorized under Rugby, such as Rugby League, Beach Rugby, Touch Football, etc. are included in 'Other Sports'. Furthermore, the TA tables in the TA Report clearly differentiate the TAs that contributed to the Rugby Union data, i.e. World Rugby, each NADO, etc. ADOs using ADAMS also have the ability to further clarify testing conducted under the umbrella of their organization.

In another example, the testing figures under ASOIF sport 'Athletics' include an increase in the number of TDSSA disciplines assigned to the samples. In 2015, nearly 36% of Athletics samples were recorded in ADAMS with TDSSA defined disciplines. This more than doubled with 73% in 2016, 91% in 2017 and 99% in 2018 of the Athletics samples recorded in ADAMS under a TDSSA-defined discipline.

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RELATIONSHIP TO OTHER WADA REPORTS

13. How does this 2018 Report differ from the Anti-Doping Rule Violations (ADRVs) Reports?

The 2018 Report highlights the results of analyses performed by WADA-accredited Laboratories on urine and blood samples for 2018, as reported into ADAMS. It does not illustrate statistics on whether the AAFs or ATFs reported became ADRVs.

The data in the 2018 Report may not correspond with the number of ADRVs reported by ADOs because all reported results are subject to the full results management process conducted by ADOs. This includes matching results with Therapeutic Use Exemptions (TUEs) – through which the use of a banned substance can be approved by an ADO for legitimate medical reasons – longitudinal studies and ensuring that sample collection and analysis were conducted in accordance with the relevant International Standards.

In simple terms, not all AAFs or ATFs lead to ADRVs.

Meanwhile, the [2017 ADRVs Report](#), issued in December 2019, illustrates the incidence of doping in global sport during 2017. The ADRVs Report shows both analytical and non-analytical ADRVs (or sanctions, as they are commonly known). The Report breaks down sanctions by sport, TA and nationality.

The reason the ADRVs Report which was published in 2019 includes 2017 statistics while this Testing Figures Report includes 2018 statistics, is because for ADRVs, the results management process can take a long time from the first signs of a potential violation through to the end of a case. Cases can take time to be resolved before they can be adequately prepared and published.

14. Why doesn't ADAMS itself illustrate the number of ADRVs or anti-doping sanctions?

ADAMS cannot provide a full and accurate picture of the number of ADRVs or anti-doping sanctions as not all ADOs are entering this information into ADAMS. This will become mandatory under the revised 2021 Code.

ADAMS has the capability to record ADRVs by Results Management Authorities. ADAMS also has the capability to record sample collection information and athlete profiles all within a secure and Code-compliant environment. This information is not reflected in the 2018 Report because the figures were compiled with data entered by the WADA-accredited Laboratories and not the ADOs themselves.

All these functions are available to ADOs at no cost. With the full adoption of ADAMS by ADOs, the sporting community would have a more transparent means for tracking results from collection to sanction, while respecting confidentiality. In addition, a complete analysis of data would be available, including linking AAFs to TUEs and sanctioned cases.

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THE DATA

15. How many TAs are included?

The 2018 Report includes data from 435 different TAs, a slight increase over the 398 from 2017 which is likely due to the increase in Sport Federations (National, Regional, Other) which conduct testing. The Report continues to include a number of National Federations (NFs) which conduct testing although NFs themselves are not Signatories to the Code and therefore are not entitled to authorize testing independently (although the rules of some NADOs and IFs may delegate testing authority to these bodies). As a result, tests attributed to NFs may in some instances be part of NADO or IF programs.

NADOs continue to be responsible for a significant portion of worldwide anti-doping efforts, having been the responsible TAs for 66% of the samples analyzed in 2018. IFs, meanwhile, were responsible for 20% of samples analyzed and reported into ADAMS (comprising testing conducted by AIMS, ARISF, AOIWF and ASOIF-member organizations).

16. Which disciplines and sports organizations are included within the sports listed?

The sports and disciplines listed in the 2018 Report are reported by the TAs as they were designated on the DCF information entered into ADAMS (or, in the absence of a DCF in ADAMS, as designated on the DCF received and reported by the Laboratories into ADAMS) relating to the sample at the time of its collection. In addition, data from the DCFs entered into ADAMS was also utilized to confirm and assign the sport and disciplines. The sport codes (names) in ADAMS ensure that all Laboratories are reporting sports in a more standardized manner. The 2018 Report by sport shows improvements in the reporting of specified disciplines in each sport instead of simply the sport.

IFs are encouraged to report any corrections or updates in relation to sports and disciplines under their authority to the [ADAMS team](#).

In addition, while some NFs or Continental Sport Confederations conduct testing under the delegation of their relevant IFs, others initiate testing independently of their IF. In the latter case, the test does not appear in the IF statistics, but rather in the Confederation testing statistics provided they were noted as the TA.

17. Do Laboratories have to analyze a minimum number of samples?

Yes.

The ISL requires that a WADA-accredited Laboratory performs analysis on a minimum of 3,000 (including urine, blood and ABP) samples per year. Any Laboratory which is accredited for the entire year and does not meet this figure is monitored closely by WADA. In some cases, Laboratory suspensions may have been the reason for the reduced total in sample analysis.

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18. Why is there such a large gap between the number of AAFs for in-competition as opposed to out-of-competition?

Typically, more samples are collected in-competition than out-of-competition. The 2018 Report illustrates that, in ADAMS, a total of 138,148 urine and non-ABP blood samples were collected in-competition (equating to 52%), while 125,541 samples were collected out-of-competition (equating to 48%). The relative number of out-of-competition tests has increased slightly from 2017 (47%).

Furthermore, by its very nature, the in-competition menu contains more drug classes and therefore more Prohibited Substances subject to detection compared to the out-of-competition menu. This is particularly the case with substances such as stimulants, cannabinoids and glucocorticoids, which are typically reported in greater numbers because they are only prohibited in-competition.

OTHER QUESTIONS

19. Is the use of ADAMS mandatory?

On 12 May 2016, WADA's Foundation Board decided to make it a mandatory requirement for Code Signatory ADOs to enter all DCFs and TUEs into ADAMS no later than 15 business days after sample collection or receipt of a TUE decision. This requirement came into effect on 1 June 2016.

20. Does every single sample/result in the 2018 Report represent an individual athlete?

No.

One athlete may be associated with multiple samples. Several samples may be taken from one athlete during the same sample collection session. AAFs and ATFs in the 2018 Report may also correspond to multiple findings on the same athlete, or measurements performed on the same athlete, such as through the ABP haematological and steroidal modules, over a period of time.

21. How many TAs conducted ABP blood testing?

There were 97 unique TAs that contributed to the ABP testing figures reported into ADAMS in 2018 (compared to 86 TAs that contributed to the 2017 ABP figures). The number of IFs incorporating ABP blood testing is similar from 24 in 2017 to 26 in 2018, while the number of NADOs has continued to increase from 46 in 2016 to 53 in 2017 and 59 in 2018. In 2018, there were five Laboratories approved by WADA to analyze blood samples uniquely for the ABP that analyzed and reported results into ADAMS. The total number of blood samples collected and analyzed for the ABP increased from 29,130 in 2017 to 31,261 in 2018 (a 7% increase).

22. Why are the ABP samples reported separately from other blood samples?

Blood samples are collected with the typical 'A' and 'B' samples to report AAFs (for hGH, EPO, etc.) while ABP samples can be collected as single samples in order to measure an athlete's

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specified blood variables, which are then compared to his or her previous data over time. This establishes an athlete biological profile, and therefore offers an indirect method that can indicate doping or help target traditional testing.