

EXECUTIVE SUMMARY

This Executive Summary is intended to assist stakeholders in navigating the data outlined within the 2019 Testing Figures Report (2019 Report) and to highlight overall trends.

The 2019 Report summarizes the results of all the samples WADA-accredited Laboratories analyzed and reported into WADA's Anti-Doping Administration and Management System (ADAMS) in 2019. This is the fifth set of global testing under the version of the World Anti-Doping Code (Code) that came into effect in January 2015. The 2019 Report – which includes this Executive Summary and sub-reports by Laboratory, Sport, Testing Authority (TA) and Athlete Biological Passport (ABP) Blood Analysis – includes in- and out-of-competition urine samples; blood and ABP blood data; and, the resulting Adverse Analytical Findings (AAFs) and Atypical Findings (ATFs).

The 2019 Testing Figures Report only focuses on the Anti-Doping data that is reported into ADAMS and will no longer include data not reported into ADAMS but provided by certain Laboratories in aggregate.

REPORT HIGHLIGHTS

- A **5.5% increase in the number of samples** (both urine and non-ABP blood samples) analyzed and reported into ADAMS: 263,519 in 2018 to 278,047 in 2019.
- A **decrease in the total percentage of AAFs**: 1.05% in 2018 (2,774 AAFs from 263,519 samples) to 0.97% in 2019 (2,702 AAFs from 278,047 samples).
- About **60% of WADA-accredited Laboratories saw an increase** in the total number of samples analyzed and reported into ADAMS.
- A similar **total number and percentage of non-ABP blood samples** analyzed: 9.3% in 2018 (24,495 of 263,519) and 9.1% in 2019 (25,339 of 278,047).
- An **increase of 16% in the number of ABP blood samples** analyzed: 31,265 in 2018 to 36,401 in 2019.
- An **increase in AAFs reported for Erythropoiesis Stimulating Agents (ESAs), Growth Hormone (GH) and Growth Hormone Releasing Factors (GHRFs)**.

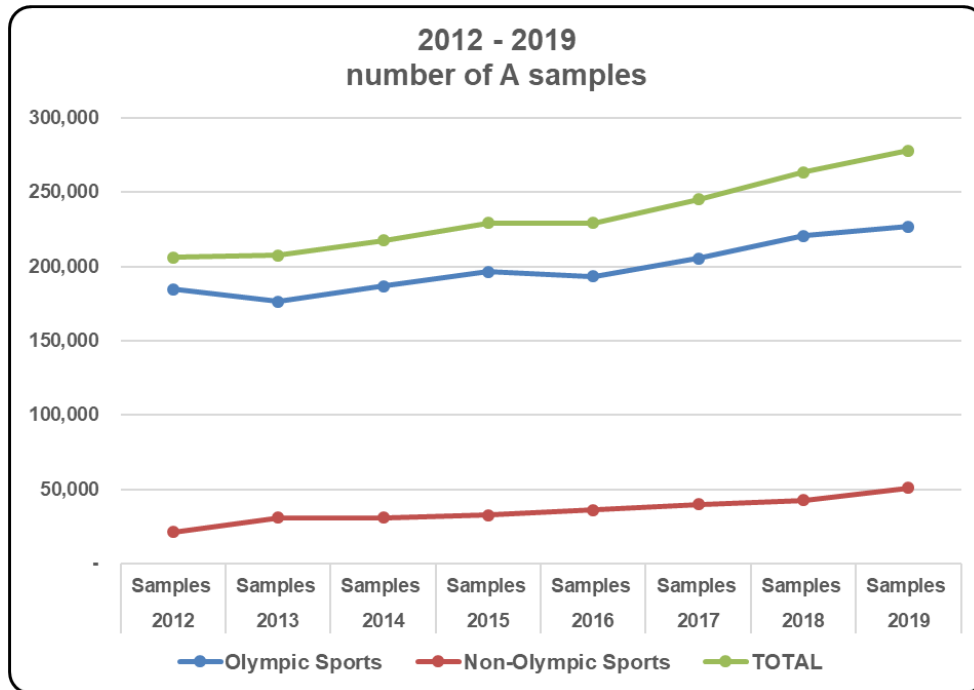
ADAMS USE GROWS

WADA's ADAMS System continues to be a critical data-gathering tool for the anti-doping community.

In addition, the figures of urine and blood samples (not including ABP samples) were compiled according to the 'Sample Collection Date' (and not the WADA-accredited Laboratory's 'Sample Reception Date'). This is a result of the efforts made by the WADA-accredited Laboratories to incorporate the collection date into their ADAMS reporting. The data was compiled using sample collection dates between 1 January and 31 December 2019.

OVERALL FINDINGS

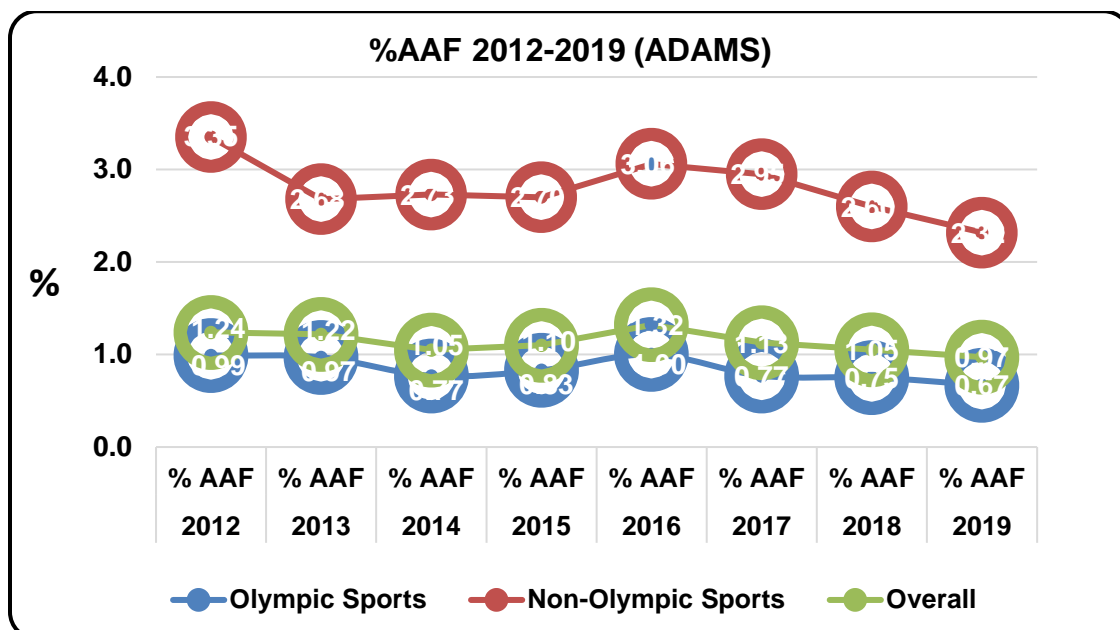
The 2019 data shows an increase of 5.5% in the number of overall samples analyzed from 263,519 in 2018 to 278,047 in 2019.



There was a slight decrease in the percentage of total findings (AAFs and ATFs - combined) from 1.05% in 2018 to 0.97% in 2019.

In addition, the data shows a slight decrease in the percentage of AAFs – more commonly known as positive tests – from 1.13% in 2018 to 1.07% in 2019.

In 2019, the proportion of ATFs reported (394 ATFs in 278,047 samples) increased relative to 2018 (212 ATFs in 263,519 samples).



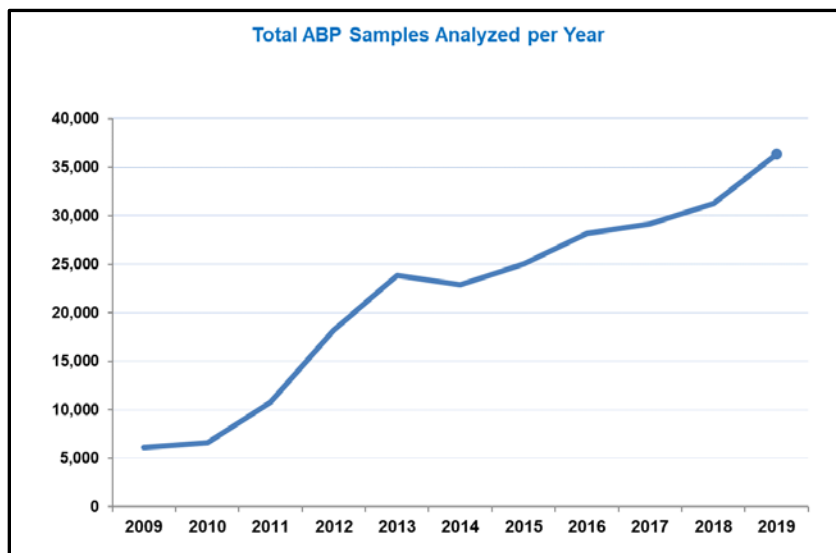
The results also show an increase in the number of (non-ABP) blood samples analyzed from 24,495 in 2018 to 25,339 in 2019.

INCREASED IMPLEMENTATION OF ABP

Blood ABP

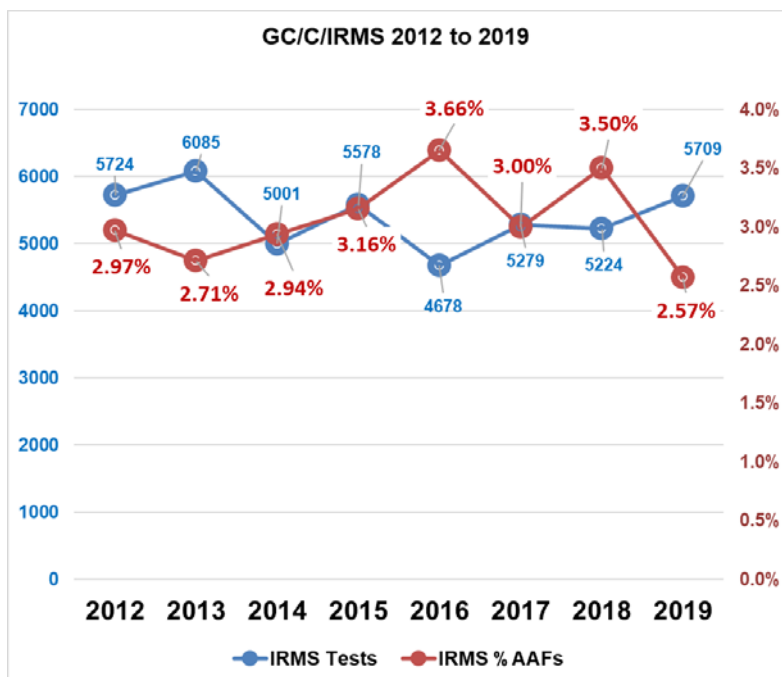
The number of International Federations (IFs) that included ABP blood testing was 25 in 2019 (compared to 26 in 2018) while the number of National Anti-Doping Organizations (NADOs) increased from 59 in 2018 to 68 in 2019.

The total number of ABP samples grew by 16% over 2018 (31,265 in 2018 to 36,401 in 2019).



Steroidal ABP

The gas chromatography combustion isotope ratio mass spectrometry (GC/C/IRMS) analytical method is an important test connected to the steroidal module of the ABP. IRMS can be triggered by the ABP or requested by the TA based on other information. The number of AAFs from the application of this method has decreased compared to 2018 (184 in 2018 and 146 in 2019) while the number of tests has increased in 2019 by 1% (5,231 tests in 2016 to 5,661 in 2019). Based on the relative percentage of AAFs in comparison to other methods, it is considered that the application of the GC/C/IRMS test continues, at 2.58% AAF, to be the analytical method with the highest proportion of AAFs.



INCREASED COMPLIANCE WITH THE TDSSA

The 2019 Report marks the fifth year that Anti-Doping Organizations (ADOs) were required to incorporate the Technical Document for Sport Specific Analysis (TDSSA) into their testing programs.

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

The findings of the 2019 Report highlight that there was an increase of ADOs testing for these three groups of prohibited substances when compared to 2014 (the year prior to TDSSA implementation), 2015, 2016, 2017 and 2018 including:

- An increase in the recording of TDSSA compliant sports/disciplines in ADAMS.
- An overall increase in ESAs testing (8.3% increase in urine and 21.5% decrease in blood between 2018 and 2019) and AAFs reported, including an increase in the percentage of ESA AAFs (0.13% in 2018 to 0.15% in 2019 in urine tests and 0.33% to 0.37% in blood tests).
- Overall a similar number in GH testing between 2018 and 2019 (increase in the number of Isoforms tests but decrease in Biomarkers tests) and an increase in the number of GH AAFs reported (6 AAFs in 2019 from 2 cases in 2018).
- An increase in GHRFs testing (a notable increase in testing since 2014) continued with a 9.8% increase between 2018 and 2019 and includes an increase in the number of GHRF AAFs reported.

Erythropoiesis Stimulating Agents (ESAs)

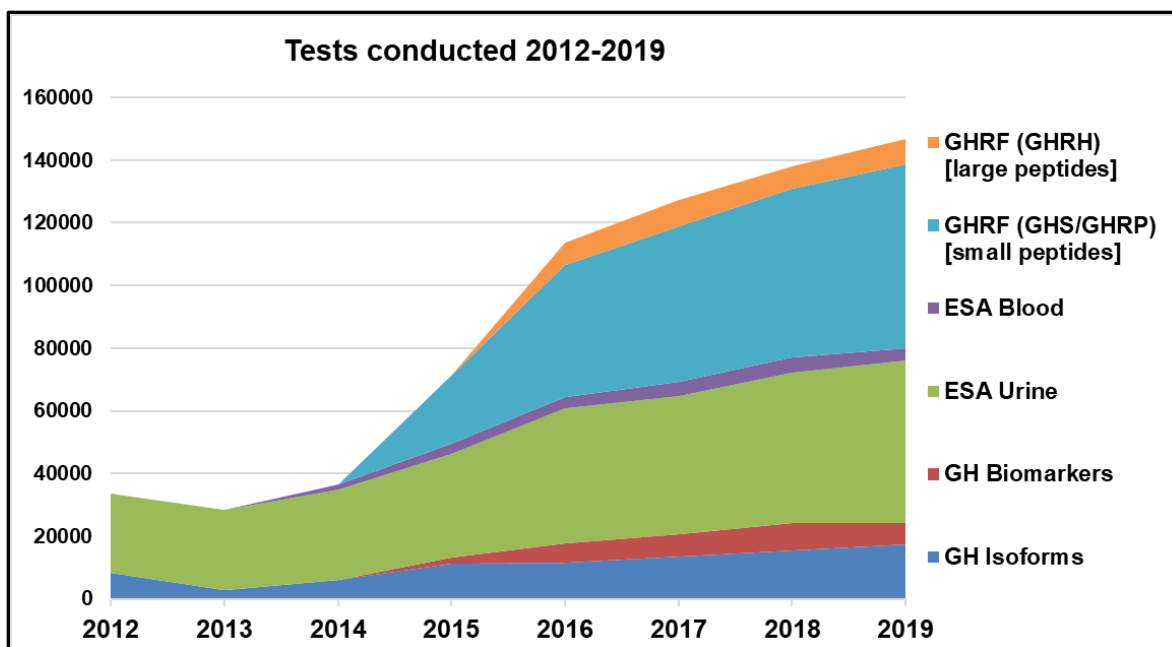
	ESAs Urine Tests	ESAs Blood Tests	AAFs Urine	AAFs Blood	AAFs Total	# of Sports	# of TAs
2019	51,929	3,757	78	14	92	120	243
2018	47,955	4792	61	16	77	118	229
2017	44,322	4531	56	29	85	116	220
2016	43,246	3464	44	22	66	108	212
2015	32,999	3219	45	1	46	94	183

Growth Hormone (GH)

	GH Isoforms Tests	GH Biomarkers Tests	AAFs Total	# of Sports	# of TAs
2019	17,393	6,790	6	103	156
2018	15,487	8755	2	99	137
2017	13,474	7008	0	90	124
2016	11,555	5983	6	68	111
2015	11,082	2182	4	74	103

Growth Hormone Releasing Factors (GHRFs)

	GHRFs Urine Tests	AAFs Total	# of Sports	# of TAs
2019	66,990	26	126	234
2018	60,964	21	124	231
2017	57,869	19	119	218
2016	42,730	15	111	207
2015	21,654	14	88	145



The Sport segment of the 2019 Report includes more samples in ADAMS that are assigned to specified sport disciplines than in 2018, which suggests that TAs continue to incorporate the TDSSA-defined sport disciplines into their sample collection procedures and documentation and thereby enhances the ability to analyze such figures accurately.

The 2019 Report does not detail statistics on Anti-Doping Rule Violations (ADRVs). These results are included in a separate ADRV Report, which details analytical and non-analytical cases and the outcomes of results management. The 2019 ADRV Report will be published in 2021.

The figures include all analyses conducted in 2019 by the WADA-accredited Laboratories and by the WADA-approved Laboratories (approved by WADA to conduct blood analysis exclusively for the purposes of the ABP blood module).

In reading the 2019 Report, it is important to note that:

- One single result does not necessarily correspond to one athlete. Results may correspond to multiple findings regarding the same athlete or measurements performed on the same athlete, such as in the case of longitudinal studies of testosterone.
- The number of AAFs in the Report may not correspond with the number of ADRVs reported by ADOs. This is because all results are subject to a results management process conducted by ADOs, which includes matching results with Therapeutic Use Exemptions (TUEs) and/or longitudinal studies, which can result in no sanction.
- To help with the interpretation of the 2019 Report, a comprehensive [Question and Answer document](#) is available on WADA's website.

Table 1: Total Samples Analyzed (All Sports) *

A Samples Analyzed

Sport	Analyzed	AAFs¹	(%)	ATFs²	(%)	Total Findings³	(%)
Olympic Sports ⁴	228,560	1,519	0.66%	281	0.12%	1,800	0.79%
Non-Olympic Sports ⁵	49,487	1,183	2.39%	110	0.22%	1,293	2.61%
TOTAL	278,047	2,702	0.97%	391	0.14%	3,093	1.11%

¹ The Adverse Analytical Findings (AAFs) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRVs). "Adverse Analytical Finding" is defined in the World Anti-Doping Code as "A report from a WADA-accredited Laboratory or other WADA-approved Laboratory that, consistent with the International Standard for Laboratories 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." These figures may not be identical to sanctioned cases (number of ADRVs), as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process for example.

² The Atypical Findings (ATFs) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRVs). "Atypical Finding" is defined in the World Anti-Doping Code as "A report from a WADA-accredited Laboratory or other WADA-approved Laboratory which requires further investigation as provided by the International Standard for Laboratories or related Technical Documents prior to the determination of an Adverse Analytical Finding." ATFs may correspond to multiple measurements performed on the same Athlete, such as in cases of longitudinal studies on testosterone.

³ Includes AAFs and ATFs.

⁴ Olympic sports in this table include sports reported into ADAMS and classified under ASOIF and AIOWF.

⁵ Non-Olympic sports in this table includes sports reported into ADAMS and classified as ARISF, AIMS, IPC, Sports for Athletes with an Impairment, other Sports from Code Signatories and Other Sports.

* These figures do not include blood samples taken for the ABP. Blood samples taken for the ABP can be found in the 2019 Anti-Doping Testing Figures - Athlete Biological Passport (ABP) Report - Blood Analysis.

Table 2: Comparison of Years 2013 to 2019 - Olympic and Non-Olympic Figures reported in ADAMS

	2014 A Samples Analyzed	2015 A Samples Analyzed	2016 A Samples Analyzed	2017 A Samples Analyzed	2018 A Samples Analyzed	2019 A Samples Analyzed	2019 vs 2018 % change
Olympic Sports*	186,723	196,581	193,345	205,405	220,659	227,032	2.9%
Non-Olympic Sports**	31,039	32,831	36,169	39,827	42,860	51,015	19.0%
TOTAL	217,762	229,412	229,514	245,232	263,519	278,047	5.5%
	2014 AAFs ¹	2015 AAFs ¹	2016 AAFs ¹	2017 AAFs ¹	2018 AAFs ¹	2019 AAFs ¹	2019 vs 2018 % change
Olympic Sports*	1,440	1,634	1,927	1,575	1,659	1,519	-8.4%
Non-Olympic Sports**	847	888	1,105	1,174	1,115	1,183	6.1%
TOTAL	2,287	2,522	3,032	2,749	2,774	2,702	-2.6%
	2014 % AAFs ¹	2015 % AAFs ¹	2016 % AAFs ¹	2017 % AAFs ¹	2018 % AAFs ¹	2019 % AAFs ¹	2019 vs 2018 % change
Olympic Sports*	0.77	0.83	1.00	0.77	0.75	0.67	-3.3%
Non-Olympic Sports**	2.73	2.70	3.06	2.95	2.60	2.32	-7.5%
Overall	1.05	1.10	1.32	1.12	1.05	0.97	-8.1%
	2014 % Total Findings ²	2015 % Total Findings ²	2016 % Total Findings ²	2017 % Total Findings ²	2018 % Total Findings ²	2019 % Total Findings ²	2019 vs 2018 % change
Olympic Sports*	0.99	1.64	1.26	0.82	0.82	0.79	-3.3%
Non-Olympic Sports**	3.00	3.68	3.29	3.02	2.74	2.53	-7.5%
Overall	1.28	1.93	1.58	1.18	1.13	1.07	-5.9%

Table 3: Summary - Total Samples Analyzed (ADAMS)

	Samples	ATF	AAF
ADAMS Urine Total	252,708	379	2,680
ADAMS Blood Total	25,339	12	22
ABP Total¹	36,401	-	-
	314,448	391	2,702

¹ ABP total in Table 3 also includes ABP samples analyzed by WADA-approved Laboratories in Moscow (Russia), Cairo (Egypt) and Auckland (New Zealand) - please refer to the ABP Report.