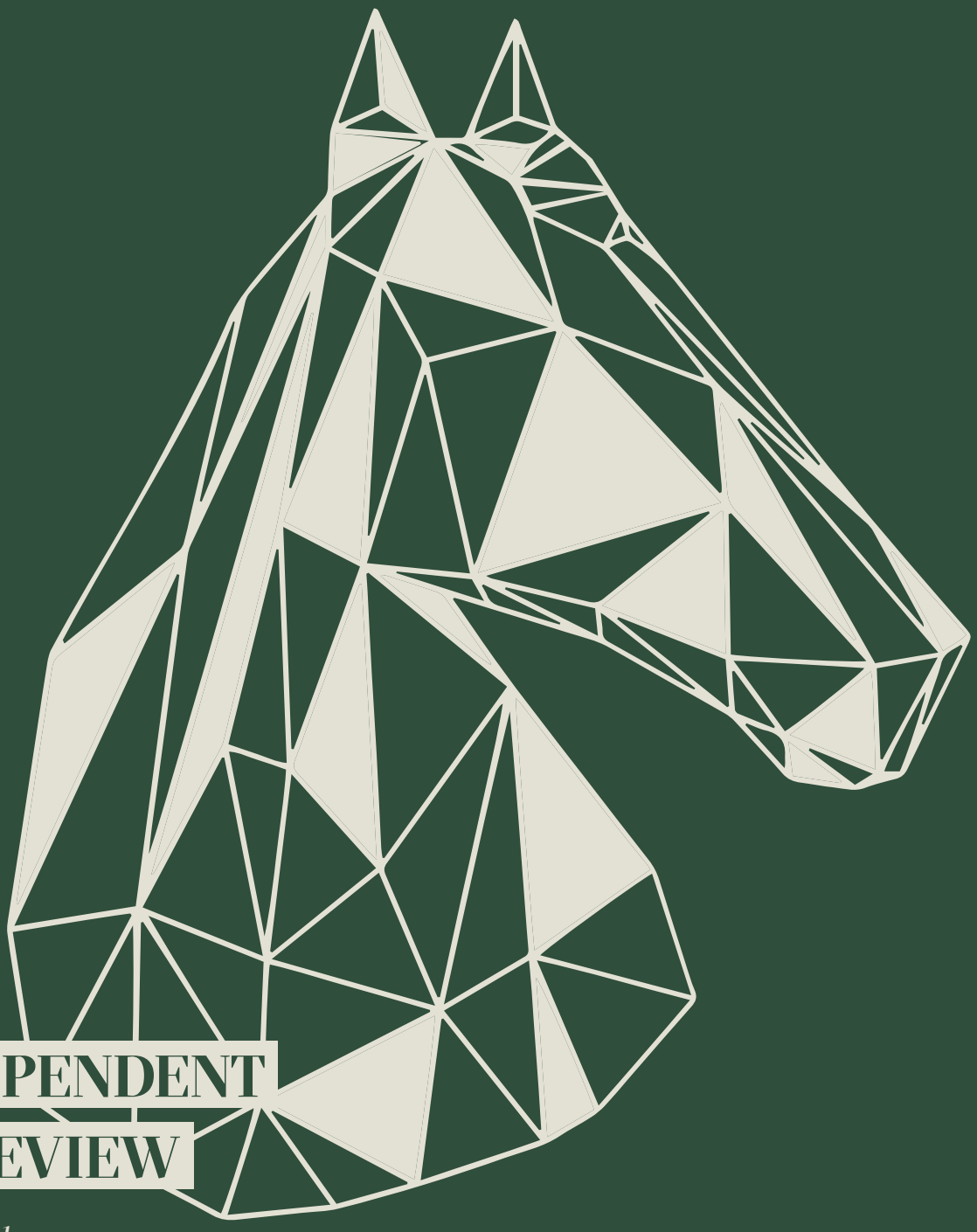

INDEPENDENT REVIEW

of the

Irish Horseracing Regulatory Board (IHRB) Equine Anti-Doping Programme

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Foreword

Ireland is a recognised world leader in horse breeding, training and racing.

The Irish Horseracing Regulatory Board CLG (IHRB) is responsible for protecting the integrity and reputation of Irish horse racing and understands the importance of Ireland's reputation on the global stage as well as the vital role it plays as the regulatory body for the sport in Ireland. Through reviews such as this we will continue to scrutinise our procedures, learn from international best practice and strive to ensure that the regulation of horseracing in Ireland meets the standard required of a global leader in the sport.

We would like to thank Dr Craig Suann for his commitment in undertaking this independent review of the IHRB Equine Anti-Doping Programme (EADP) and for the recommendations he has made. We welcome these recommendations following an in-depth review of our programme carried out by a globally recognised expert. Dr Suann is the former Racing New South Wales chief veterinary officer and his collaborative work with the Australian Racing Forensic Laboratory has been instrumental in the first-time detection of several prohibited substances.

Dr Suann's Report recognises our current EADP as "at least matching international best practice". His recommendations are made on the basis of "enhancing the robustness of the programme's processes, capabilities and capacities" and we are fully committed to working through his recommendations to ensure our EADP continues to meet international best practice.

We welcome Dr Suann's recognition that the IHRB has "made significant advances in recent years." Following the Report of the Anti-Doping Task Force in 2016 the IHRB undertook a range of initiatives designed to make significant progress in modernising our systems. These have included:

- The appointment in 2018 of LGC Laboratories, following a procurement process, to provide laboratory services for the IHRB. LGC is one of only six International Federation of Horseracing Authorities (IFHA) certified Reference Laboratories. It has a proven track record in sustained delivery of the highest standard of world leading analytical testing in equine anti-doping and its work for the IHRB over the last four years has significantly enhanced our anti-doping programme.
- Significantly increased sample numbers with a focus on out-of-competition testing (OOCT). The IHRB has increased the range and type of test taken in recent years, with over 25% of our total samples being taken away from the racecourse in an increasingly broad number of locations and the routine taking of hair samples at race meetings as well as OOCT.
- Our investigation process has continued to evolve and improve in recent years and our ground-breaking initiative in collaboration with the Department of Agriculture, Food and the Marine of having IHRB staff appointed as Authorised Officers (AOs) has greatly enhanced the investigation capabilities of the organisation. AOs have warrant cards to facilitate their unprecedented access to any Thoroughbred in any premises at any time to permit the sampling of horses. IHRB has been recognised as setting international best practice with this initiative which will be developed further to make best use of synergies with other bodies and jurisdictions.

The IHRB will continue, through reviews such as this, engagement with Oireachtas Committees and Government Departments and consultation with those working at all levels within horseracing to seek to ensure that our equine anti-doping programmes are responsive to change and meet international best practice.

Independent Review of the Irish Horseracing Regulatory Board (IHRB) Equine Anti-Doping Programme

Aim of the review:

To audit the IHRB's Equine Anti-Doping (EAD) Plans, Policies and Procedures as they relate to the IHRB's Strategic Plan 2019-23.

Terms of reference:

1. To assess work to date against the EAD Initiatives set out in the IHRB Strategic Plan. Output to include reporting what has been achieved and what is still to be done, with recommendations on what is needed to achieve the latter, and its priority.
2. To compare the IHRB's EAD strategy with that of other racing regulators, with particular attention to the test distribution plan.
3. To assess the practical implementation of the IHRB's EAD programme both on track and in Out-of-Competition by a sample tracking approach to include an appraisal of the Chain of Custody of the samples and the integrity of the data associated with sample identification and tracking.
4. To assess whether the administrative and technical support for the EAD programme is sufficient to enable the achievement of the aims in respect of EAD set out in the IHRB strategic plan.
5. To review the Oireachtas report in respect of EAD and assess the IHRB EAD plans and policies against that.

Contents

Executive Summary

In 2021, the Joint Committee on Agriculture, Food and the Marine (the Committee) convened a series of meetings to examine the processes and systems in place regarding aspects of the integrity of the horse racing industry in Ireland. This followed allegations in the media about the abuse of banned substances in the industry. Arising from their deliberations, the Committee recommended that an independent review be conducted "in relation to the current processes in place by an individual from another horse racing authority internationally."

This audit was conducted remotely due to the travel constraints imposed by the COVID-19 pandemic. In addition to reviewing transcripts of the Committee's meetings with stakeholders and its Report, this audit has been facilitated by the electronic provision of a range of materials including documentation, photographs and videos, and through virtual meetings with IHRB staff and other parties. The materials provided were sufficiently comprehensive to gain a thorough insight into the current state of, and the policies and procedures that support, the IHRB's Equine Anti-Doping Programme (EADP). This review concludes that the IHRB EADP does at least match international best practice in most respects and has made significant advances in recent years. However, a number of recommendations have been made that, if adopted, are capable of enhancing the robustness of the programme's processes, capabilities and capacities. The author has also provided examples of strategies and initiatives employed by other racing jurisdictions that would be considered best contemporary practice and which could be adopted by the IHRB to bolster its EADP.

The implementation of some or all of these recommendations will require the provision of more funding and resources devoted to the EADP, mainly in the form of extra staff, but also modification to Sampling Units at racecourses.

Abbreviations

AAF	adverse analytical finding
AO	Authorised Officer
ARCI	The Association of Racing Commissioners International
CCTV	closed-circuit television
CVO	IHRB Chief Veterinary Officer/Head of Anti-Doping
DAFM	Department of Agriculture, Food and the Marine
EAD	equine anti-doping
EADP	equine anti-doping programme
EPO	erythropoietin
EVSA	Equine and Veterinary Services Assistant
HRI	Horse Racing Ireland
IABRW	International Agreement on Breeding, Racing and Wagering
IFHA	International Federation of Horseracing Authorities
IHRB	Irish Horseracing Regulatory Board
IRTA	Irish Racehorse Trainers Association
LGC	LGC Assure Animal Sports, Sport and Specialised Analytical Services, Fordham, UK
OOCT	out-of-competition testing
RFID	radio frequency identification
RP	Responsible Person
SOP	Standard Operating Procedure
STB	Sample Testing Box
TB	Thoroughbred
TCO2	total carbon dioxide
VA	IHRB Veterinary Assistant
VO	IHRB Veterinary Officer
WADA	World Anti-Doping Agency

Overview of the IHRB EADP processes

The IHRB is the regulatory body for Irish racing and is responsible for overseeing the integrity of horseracing through the making and enforcement of the Rules of Racing and the provision of integrity services. One of the main integrity functions of the IHRB is the implementation of the EADP, principally performed by a team of veterinary officers and other officials and with sample analyses conducted by the designated laboratory, LGC Assure in the UK (LGC).

The EADP has many parts, comprised primarily of a sampling and testing programme which is conducted at race meetings and out-of-competition, and which is augmented by intelligence and information gathering. Samples taken from horses are mainly urine, blood and hair samples, with the IHRB being the first racing authority to routinely take hair samples at race meetings as well as in out-of-competition testing (OOCT). The collection of all three sample matrices broadens the scope and capability of the analytical process, permitting the detection of an enormous range of substances for varying lengths of time.

All samples are analysed by LGC, one of the six International Federation of Horseracing Authorities (IFHA) "Reference Laboratories", meaning that it has successfully satisfied IFHA criteria that include but are not limited to the scale of operations, resourcing, research activity and the capability to detect the use of a range of prohibited substances, including major doping agents or substances prohibited at all times. LGC is also recognised as a world leader in the analysis of anabolic steroids and erythropoietin (EPO) and its analogues and the testing of hair samples and is at the forefront of research and development into novel approaches to EAD control such as in the areas of gene doping detection and the monitoring of biomarkers.

An important and ground-breaking recent initiative has been the appointment of a number of IHRB officials as Authorised Officers (AOs) under the Animal Remedies Act 1993 by DAFM. The obtaining of warrant cards by the AOs facilitates their unprecedented access to any Thoroughbred in any premises, including licensed premises and unlicensed premises such as stud farms, sales consignors' premises and pre-training facilities, at any time to permit sampling of horses in these premises. The AOs, often working with DAFM officials, also have the authority to search horse transport vehicles and seize products, documentation or other evidence as required.

The integrity of the sample collection process, both in- and out-of-competition, is an essential component of an EADP. There must be strict adherence to standard operating procedures (SOPs) developed to ensure that a sample is collected contamination-free from the designated horse and that there is a rigorous and secure chain of custody of the sample from the point of collection through to its delivery to and receipt by LGC.

The integrity and security of this process has been enhanced by the introduction of an integrated scanning device that utilises an iPhone and App to record sample details (rather than a paper-based system) and then permits real time secure data transfer to both the IHRB and LGC portals, thereby reducing the propensity for human error.

IHRB has an arrangement with LGC to permit the early reporting of a screening finding in the "A" portion of a sample which facilitates the prompt investigation of an irregularity through an unannounced inspection of the premises involved, with sampling of the horse concerned and any others as required, and inspection of veterinary records, searches for substances and taking any as evidence, and interviews of relevant parties.

Following the confirmation of an AAF in the "A" portion of a sample, with or without the referee analysis of the "B" portion at the trainer's discretion, the finding is dealt with through a disciplinary process commencing with an IHRB Referrals Committee, and with an avenue of appeal against any penalty imposed on the person/s responsible.

Part of the remit of the EADP is to educate and communicate with industry participants with the aims of improving compliance with the Rules of Racing and reducing anti-doping related infractions. To date, this has been achieved through industry seminars (published on the IHRB website) and through the production of 6-monthly Equine Anti-Doping Reports.

EADP resources

It is apparent from this review that there are shortfalls in the resources available to effectively implement the IHRB EADP, including in the areas of administrative and technical support. Many of the recommendations made in this review, if adopted, will place further pressures and demands on the already stretched EADP staff and resources, and there may be the requirement to upgrade Sampling Unit facilities at some racecourses.

The author hopes that there will be favourable consideration of any request by the IHRB for more funding for staff and other resources if certain recommendations arising from this review are to be adopted.

The IHRB EADP does at least match international best practice in most respects and has made significant advances in recent years. However, extra resources will be required to facilitate any increase in race day and OOCT sampling numbers, the ongoing digitisation of sample collection and chain of custody processes, and for the IHRB to continue to perform the myriad functions required to implement a sound EADP and equine welfare programme, both of which are essential for ensuring public and industry confidence in the integrity of the sport and for it to maintain its social licence, and to ensure the ongoing delivery of the objectives of the "Industry-Wide Policy on Prohibited Substances/Doping Control" report published in July 2018 and in the IHRB Strategic Plan.

Race day sample collection and racecourse facilities

At most race meetings, two Veterinary Assistants (VAs) are in attendance to collect antidoping samples, and one IHRB Veterinary Officer (VO) is present to collect blood samples as required and to perform other veterinary duties such as post-race veterinary checks. VOs and VAs arrive on-course at a time before the first race, as designated by the Raceday Veterinary Operations SOP, and are assigned tasks designated by the SOP. This document has been adjusted from time to time over the last 2 years to take into account COVID-19 precautions.

An IHRB Security Officer will deliver the race day Sampling Testing Box (STB) to the racecourse and IHRB Veterinary Unit (or Sampling Unit) where the sampling process takes place. The STB is a lockable stainless steel carry container that holds and secures the LGC-packed *Berlinger* urine and blood sampling kits as well as consumables and other paraphernalia required for the collection of urine and blood samples, and a padlock. The STBs are packed with fresh sampling kits and consumables at LGC and then couriered to IHRB and stored in the IHRB office storeroom facility prior to delivery to each race meeting.

There are 50 uniquely numbered STBs (property of the IHRB) which, after being packed with fresh contents at LGC, are each sealed with a uniquely numbered tamper-evident blue wire seal which requires a wirecutter or pliers to remove. Approximately 30 minutes before the first race, one of the VAs will break the seal, then open and check the contents of the STB which include a cooling pack which is placed in the freezer of the fridge in the sampling unit office, 8 *Berlinger* urine kits and 4 *Berlinger* blood kits, each packaged in cardboard boxes, sealed urine collection beakers, needles, gloves, and spares of all consumables. Each *Berlinger* urine and blood kit (including the individual urine bottles and blood tubes in each kit) and the cardboard boxes in which they are packaged have a unique barcode and number.

A horse which has been declared to run in a race must arrive at the racecourse at least an hour before the advertised time of the race. This permits sufficient time for identification confirmation and preliminary health checks, as well as blood sampling for plasma total carbon dioxide (TCO2) if that is to take place for a particular race at a particular race meeting.

After the cooling pack is removed, the STB is locked using the padlock before the first horse for testing is brought for sampling. It will be unlocked to gain access to the contents as each sample is collected, then locked again between samples.

The sampling stables are checked for cleanliness and that they are properly bedded down, and the “baby monitor” system which is used to permit the horse handler to witness the sample collection outside of the sampling stable, especially during COVID, is set up. All VAs have a radio to permit communication with the Stewards and with each other, and there is a TV in the veterinary unit to monitor the progress of the race meeting and to observe which horse(s) will be presented for sampling.

eScanner

The IHRB now uses a paperless system for a range of sampling and veterinary activities, including horse identification and sample identification and data handling. A collaboration with technology company *EventLog* which has extensive experience in this field, the digital system tailored for the IHRB aims to streamline processes, minimise the risk of errors, including typographical and transcription, and permits real-time data transfer. Called the eScanner, the device is an integrated scanner that has an RFID scanner for horse microchips and a barcode scanner for scanning the LGC *Berlinger* sample kit barcodes. It has a cradle and rubberised backplate to house a normal iPhone connected to the device through a lightning connector. Through an App, the eScanner facilitates the seamless collection and transmission of testing data to the IHRB's sample management data base and to LGC's portal. Other functionality includes horse identification confirmation, vaccination records, horse participation details for the race meeting and veterinary incident and injury recording. In the rare event of a system failure, a paper-based system is still available as a back-up. The paper-based system is still being used for blood sample collection at Point-to-Point fixtures.

After the running of a race, the horse(s) selected by the Stewards after a race for sampling will be observed by an IHRB security guard and escorted from the parade ring by the guard back to the stabling area to pick up a bucket and sponge and any other required gear, and then on to the veterinary unit whereupon the VA takes over the supervision of the horse. The identity of the horse is confirmed through a scan of its microchip by the security guard while in their care. The horse is permitted to drink from a freshly rinsed and filled bucket, and washed down before the VA, and is then walked in the enclosed veterinary area as part of the cooldown process.

The horse is then led into the sampling stable, and the stable representative instructed to watch the procedure from outside the sampling stable using the baby monitor (a COVID distancing measure as previously the stable staff usually witnessed the collection within the sampling stable).

The STB is unlocked, and wearing a fresh pair of disposable gloves, the VA fits a fresh collection beaker into a "collection stick" without touching the inside of the beaker, and collects a urine sample from the horse, ensuring there is no contamination of the sample before decanting it into the bottles.

Once a urine sample of sufficient volume is collected, the stable representative is talked through and observes the even splitting of the sample into A and B bottles. The urine bottles are then sealed securely, the matching bar codes of the cardboard box and 2 urine bottles are scanned and the bottles packaged in their corresponding cardboard box and the stable representative enters their name and signature on the eScanner to confirm they have witnessed the collection, packaging and sealing procedure. The VA then signs the eScanner and uses it to finalise the sample login procedure. The sample is then stored in the Sampling Office locked fridge.

If the horse does not stale or there is insufficient urine passed, the VO is then called to collect a blood sample. A post-race blood sample may also be collected from a horse that has provided a urine sample.

Full regulatory blood samples are collected by the on-duty VO with the assistance of a VA. Six blood tubes are collected and split for packaging, 4 tubes for the A portion and 2 tubes for the B portion. The blood tubes are numbered and bar coded as per the 2 *Berlinger* bottles into which the tubes are placed and sealed and as for the cardboard pack into which the bottles will be placed and sealed. As for urine samples, the stable representative enters their name and signature on the eScanner to confirm they have witnessed

the collection, packaging and sealing procedure. The VA then signs the eScanner and uses it to finalise the sample login procedure. The sample is then stored in the Sampling Office locked fridge.

Hair samples are also collected under a secure chain of custody using standard hair sampling kits provided separately by LGC and dividing the samples into individually sealed A and B portions. The same sample login procedure as per urine and blood samples using the eScanner, including the witnessing of the collection and sample sealing by the stable representative, applies for hair samples which are packaged in the STB with the blood and urine samples.

A more recent innovation is the collection of pre-race blood samples. These samples are mainly collected for the purpose of surveillance for plasma TCO2. This process involves the collection of a single tube of blood from each horse in a particular race at a particular race meeting. Each tube is the subject of on-site screening using a handheld i-STAT device. Due to time constraints, the sealing and logging in procedures for urine and full regulatory blood samples are not used, but each blood tube is identifiable according to the horse from which it collected. If the sample exceeds the in-house plasma TCO2 threshold established for the i-STAT, then a full regulatory blood sample is collected and packaged and sealed as per usual chain-of-custody procedures and sent for priority delivery to LGC where it will be analysed for plasma TCO2 using internationally agreed methodology.

Sample reconciliation and transport to IHRB office

At the conclusion of the meeting, all samples collected are removed by the VA from the locked fridge. The STB number is entered manually into the eScanner. The STB will be sealed with a uniquely numbered, tamper evident red coloured wire tag seal whose number is also manually recorded using the eScanner. The barcodes of each sample pack are scanned with the eScanner and samples placed into the STB. The unused sample kits are also scanned and placed in the STB. The cooling pack kept in the freezer is placed on top of the STB contents and the STB is closed, the padlock is applied, and the STB sealed using the red tag seal.

Once the STB is locked and sealed, the STB is handed over to the IHRB security guard responsible for transporting the samples to the IHRB head office cool room. The guard signs off using the eScanner to complete the process, and the “Submit Consignment” tab on the eScanner is entered to transmit securely the relevant data on the samples to both the IHRB (as a Consignment Receipt) and LGC portals.

Observations

The race day sample collection process and security and chain of custody procedures are fundamentally sound, but improved surveillance measures could be considered.

The eScanner works very well to streamline data entry processes, minimise the risk of errors, including typographical and transcription, and permits real-time data transfer. However, a paper-based backup process should continue to be available in the event of a technological glitch in the system.

Recommendation 1

With the roll-out of CCTV on all racecourses, CCTV should be installed in the Sampling Units of each racecourse. (High priority)

There should be CCTV coverage inside the individual sample collection stables, the sample collection office area, as well as the hosing stalls and the cooldown walking area of the sampling unit.

Apart from monitoring horses during their time in the sampling unit, recording of these areas provides evidence when procedures and practices are challenged during investigations into AAFs.

In other overseas jurisdictions, CCTV has proven to be useful in resolving disputes over whether or not a particular sample was taken from a particular horse. It is also useful in detecting the possibility of interference to the horse before sampling takes place and adds another layer to the visual chain of custody of the horse prior to sampling.

There should be CCTV coverage of the sampling office to record the packaging and sealing of the samples, thereby monitoring procedural compliance of the officials as well as the reconciliation of the STBs at the start and end of the day, and CCTV oversight of the sample storage facilities (fridge).

A television monitor should also be available to provide a live feed of the urine and blood sample collection for viewing by the stable representative who is outside of the sample collection stable, replacing the current “baby monitor” system.

Due to local privacy requirements, there may be the need to update the relevant privacy notice, and the placement of racecourse signage to remind industry participants that CCTV is being used.

Recommendation 2

The IHRB should consider enhancements to the cross-checking and reconciliation of the STB contents on race day. (Medium priority)

In order to enhance the integrity of the reconciliation of the STBs and their contents and to ensure the traceability of the *Berlinger* kits, 2 IHRB officials should conduct an STB contents audit at both the opening of the STB before the first race, and when the STB is packed, closed and sealed after the last race.

The functionality of the eScanner should be expanded to permit it to scan the barcodes of all of the sampling kits on opening of the STB as an initial contents check. There should also be barcodes generated for the STB numbers and for the blue and red tag seals. This recommendation will also require negotiations with LGC in order for them to adjust their procedures with respect to the preparation of the STBs at their end, so that this extra step of a contents cross-check on opening performed by the eScanner can be facilitated and validated.

In a modified procedure, on opening of the STB, the blue tag seal barcode and STB number barcode would be scanned, all of the *Berlinger* sampling kits would be scanned and then returned to the STB to be locked until used. Confirmation of this opening cross-check would require the signatures of 2 IHRB officials.

Likewise, at the conclusion of the race meeting, the STB barcode and return red tag seal barcode would be scanned, sample kit barcodes scanned, distinguishing used and unused, and the STB locked and sealed.

A similar approach to contents cross-checking by 2 officials should also occur for the kits used for OOCT.

Alternatively, a paper-based system could be developed such that an "STB Audit Document" could be generated by LGC to be included in the STB when packed. This audit document would note the STB number, the blue and red tag seal numbers, and a list of all of the barcode numbers of the *Berlinger* sample kits contained in the STB. On opening of the STB, two officials would cross-check the contents against the list, including the tag seal numbers, and sign accordingly, and as the samples are collected, the VA or VO would sign against each sample kit barcode number as used. Before sealing the STB, 2 officials will again cross-check the contents, confirm the red tag seal number, and both sign the document before placing it inside the STB which is then sealed. The document would then be reviewed by LGC staff on opening of the STB and any discrepancies reported to the IHRB.

There are integrity benefits in a system of cross-checking by 2 officials, including a contents audit on opening as well as on closing and sealing of the STBs, adding robustness to the security and chain of custody of samples in the event of a challenge to procedures or an allegation of corruption against a single official working alone during an investigation and subsequent hearing into an AAF.

Operational suggestions

Observations of less critical aspects of the sample collection process lead to the following suggestions:

- consideration could be given to expanding the scope of the eScanner to permit the scanning of the barcodes of each blood tube before they are placed in the A and B *Berlinger* bottles.
- visual chain of the custody of the horse by an official must continue to be maintained prior to sample collection. This would be assisted by the installation of CCTV coverage in the relevant areas.

Out-of-competition testing (OOCT)

The process of OOCT and premises inspections has been greatly enhanced by the appointment by DAFM of a number of trained IHRB officials as Authorised Officers (AOs) under the Animal Remedies Act 1993. This initiative is to be commended, and was a commitment agreed by the industry, including trainers' representatives, in the 2018 *Industry-Wide Policy on Prohibited Substances/Doping Control*, especially regarding the regulation of veterinary medicines and other substances.

The obtaining of warrant cards by the AOs facilitates their unprecedented access, when compared with most other racing jurisdictions, to any Thoroughbred in any premises, including licensed premises and unlicensed premises such as stud farms, sales consignors' premises and pre-training facilities, and at barrier trials, at any time, to permit sampling of horses in these premises and events. The AOs, often

working with DAFM officials, also have the authority to seize unauthorised products or prohibited animal remedies, take possession of documentation or other evidence as required, to sample horses OOCT at any time and to search horse transport vehicles.

The IHRB employees appointed as AOs have been trained to exercise the powers and functions of AOs, including interview techniques, the taking of statements, proper conduct and etiquette during inspections and the issuing of cautions. This is a unique situation and unparalleled in most other jurisdictions.

A draft OOCT SOP (yet to be ratified) describes the roles and responsibilities of the personnel involved, scheduling and premises selection, the expected conduct of the OOCT team, sampling procedures, report production and the process of review and other actions arising from the OOCT visit. The draft SOP appears to be sufficiently prescriptive and detailed and should be finalised and ratified by the IHRB (see Recommendation 15). The management of the OOCT program is the direct responsibility of the IHRB Chief Veterinary Officer/Head of Anti-Doping (CVO).

Premises for OOCT are selected according to a list of criteria, but especially based on intelligence relating to an anti-doping or equine welfare matter. Intelligence could arise from results of race day testing (early screening finding, for example), complaints or unusual patterns of performance.

The inspections are unannounced but organised at a time to minimise disruptions to the activities of the premises being inspected. The designated team leader (VO) is notified of the premises to be visited, and any relevant intelligence or other information pertinent to the inspection. The assigned team then meets at a pre-arranged rendezvous point before the visit and only then is informed of the premises and the nature of the operation.

The detailed audit of a trainer's premises includes the identification of all horses, health and welfare checks and the collection of samples as required, and the examination of the stable Medicines Register and the relevant prescriptions which facilitated the supply of restricted veterinary medicines.

Regarding sample collection, the selection of horses to be sampled is at the discretion of the attending VO, but the CVO may also identify particular horses to be sampled. Samples will be analysed for the full suite of prohibited substances, including substances prohibited at all times, as well for therapeutic substances to ensure compliance with recording of treatments in the Medicines Register. The VO will be assisted by 2 VAs in the sample collection process, and each sample collected must be witnessed by the trainer or member of their staff. Blood and hair samples will be collected from horses to be tested, and urine samples may also be collected if circumstances or intelligence dictates. As for race day samples, samples are split into sealed A and B portions.

Rather than STBs, special OOCT carry containers packed by LGC are used to secure the sampling kits, and are carried from box to box as samples are collected from the horses in the premises. eScanners are now being used for data entry and management. A paper-based system is used as a back-up if required.

Recommendation 3

The IHRB should consider enhancements to the cross-checking and reconciliation of the contents of the OOCT kits during OOCT operations. (Medium priority)

An approach similar to the contents cross-checking of race day STBs by 2 officials should also occur for the carry containers and contents packed by LGC used during OOCT operations. This is in addition to the completion of any other forms such as the Sample Summary Form and those required for chain of custody.

Another commendable IHRB process is the system of Post-Licensing Stable Inspections which aim to monitor, educate and enforce where necessary the Rules of Racing with regards to the premises and operations of Licensed Trainers and their premises. It involves the inspection and auditing of Licensed Premises on a risk basis throughout the year by a team of Authorised Officers.

An initiative that the IHRB could also consider is the deployment of one or more “sniffer” dogs trained to detect substances and illicit electrical devices. This has been successfully deployed in at least one other racing jurisdiction, where the dogs have been trained and cared for by a member of the investigations unit.

Sample security and chain of custody and transport to LGC

Being aware of alternative carrying containers used for sample transport in other racing jurisdictions, it is the view of the author that the IHRB STBs are fit-for-purpose. They are robust, capable of withstanding the rigours of road and air transport, and have a high level of security and tamper evidence. The OOCT kits are large plastic padded insulated security satchels that are suitable for their purpose and also have good sealing and tamper evidence properties. The padlocks that are used to secure the STBs are the property of the IHRB and are returned in the STBs as part of the delivery of fresh kits back to the IHRB.

The IHRB Equine and Veterinary Services Assistant (EVSA), reporting to the CVO, is responsible for overseeing the process of transport of race day and OOCT samples to the IHRB office, their storage there and the subsequent despatch of samples to LGC, as well as keeping records on sample chain of custody and logistics management.

Samples from a race meeting are delivered to the IHRB office that day by an IHRB security officer who accesses an IHRB storeroom facility via the office front door. There is a padlocked latch as well as a coded lock on the IHRB office door, then another coded lock to the storeroom door which is also alarmed. A personal alarm code is issued to each authorised user. All of the unused and used STBs and OOCT carry kits are stored in a walk-in fridge (cold room) inside the storeroom, with another coded lock for the door of the cold room which also has a temperature monitor and alarm.

After accessing the area, the IHRB security officer places the STB inside the cold room and enters in writing its delivery details in an inbound log book, noting the date and time into the cold room, the box number (for the STB number or OOCT carry kit number), security tag number and then writing their initials and signature. The same log book is used to log in OOCT samples returned by the attending VO.

Recommendation 4

The IHRB should consider enhancing the security oversight of the arrival and storage at, and the despatch from, the IHRB office of the STBs and OOCT carry kits. (Medium priority)

While it is acknowledged that that are currently 3 layers of security into the cold room where the containers are stored, surveillance arrangements would be enhanced by CCTV monitoring at key locations in and around the storeroom area. This could also be extended, if not already present, to other areas of the IHRB office area, including where the IHRB servers are housed and where sensitive information will be stored. An electronic pass system where access points are controlled by an electronic keypad system activated by a personal RFID tag card and with central monitoring could also be considered. CCTV recordings of these procedures and entry logs can be tabled at an AAF hearing if there is a challenge to the chain of custody of the sample concerned.

When the VA at the race meeting submits the sample consignment details via the eScanner it is transferred to the IHRB secure portal to its Consignments Dashboard. A “Consignment Receipt” is generated which lists the date and time of data submission, the racecourse name, the barcode numbers of the samples collected, the red security tag number, STB number, the number of unused sample kits and the VA or VO name. Also transmitted are the time of collection of each sample, the microchip number and name of the horse matched to the sample barcode number, and the name of the stable representative witnessing the sample collection.

If the paper-based system is used for sample identification and submission for the contents of a particular STB or OOCT carry kit, this information would be entered manually into the IHRB Anti-Doping Spreadsheet (see later), and relevant information forwarded to LGC by email.

LGC arranges the logistics for STB and OOCT carry kits, for both delivery of fresh kits to IHRB, but also the transport of STBs with race day samples and OOCT kits with samples from IHRB to LGC, generating relevant documentation on behalf of the IHRB for placing on the outside of each container shipped from Ireland. Brexit has added an extra layer of complexity, but procedures and arrangements have been adjusted to deal with the revised customs arrangements and health certification requirements for biological samples into the UK.

On the designated consignment days, the EVSA sends an email to notify LGC of the number of STBs and OOCT carry kits with samples to be transported to LGC. Meanwhile, the relevant information regarding sample barcode numbers, type of sample, sample volumes, horse age and gender, and unused kit barcode numbers is also transmitted to LGC when the eScanner transmits consignment details to the LGC portal.

LGC has a single service level agreement with the global logistics company DHL for a range of customers, including horse racing clients.

Based on the information received in the email from the EVSA, LGC arranges with DHL the pick-up of the STBs from the IHRB and transport to LGC. LGC returns an email to the EVSA and which generates a Proforma Invoice label and DHL barcoded Waybill label for and to be applied to each STB to be transported in the consignment, and with other relevant customs and health declaration documents applied to each. The samples are transported overnight through DHL with delivery to LGC the next day. DHL provides LGC a tracking service which can track shipment while in transit.

The EVSA enters in writing the details of the consignment on an "Outbound IHRB Sample Transport Boxes Log/DHL Log Sheet" and records the date and time of collection by DHL, and lists the STB numbers and Red tag security seal number. Corresponding details are entered using the same Log Sheet for OOCT carry kits. The DHL driver enters their name, and the entry is signed by the EVSA or other IHRB staff responsible for the particular consignment.

With CVO oversight, the EVSA is responsible for maintaining an Anti-Doping Spreadsheet, access to which is restricted on the IHRB server to relevant authorised staff. The Anti-Doping Spreadsheet records all of the relevant information relating to sample collection at each race meeting or premises inspection, including the LGC certificates of analysis numbers generated for each event.

Recommendation 5

The IHRB should continue to scan the horizon for further electronic options to enhance the entry and transmission of data relating to sample chain of custody and sample submission between the IHRB and LGC. (Low priority)

The IHRB has made great progress with the digitisation of its data handling with respect to sample collection, chain of custody and sample submission. From an efficiency and data integrity point of view, this will be further enhanced as new options are developed for the automated digital transmission of all relevant information relating to STB and OOCT kit chain of custody, sample submission and logging-in, and the reporting and collation of analytical results.

Laboratory services - LGC

Following a public procurement process, since 2018, all IHRB samples have been analysed by LGC, one of the five International Federation of Horseracing Authorities (IFHA) "Reference Laboratories". These 5 laboratories have successfully satisfied IFHA criteria that include but are not limited to the scale of operations (over 50,000 equine and canine samples analysed annually by LGC), resourcing, research activity, and the capability to detect the use of a range of prohibited substances, including major doping agents or substances prohibited at all times. LGC has also been recognised as a world leader in the analysis of anabolic steroids, EPO and its analogues, and the testing of hair samples and is at the forefront of research and development into novel approaches to EAD control such as in the areas of gene doping detection and the monitoring of biomarkers.

There is a formal service level agreement between IHRB and LGC and which is consistent with that for other LGC thoroughbred racing regulator clients, although with provisions to deal with the particular circumstances for the IHRB. There are regular meetings between relevant IHRB officials and senior LGC staff to facilitate the ongoing management and review of arrangements.

IHRB samples are received and logged in as for other Thoroughbred racing clients with the appropriate reconciliation processes. The relevant information regarding sample barcode numbers, type of sample, sample volumes, and horse age and gender (but excluding any details to identify the horses concerned) are transmitted to LGC to produce a sample manifest when the "Submit Consignment" tab is pressed on the eScanner at the track. When the paper-based sample identification system is used, for example for Point-to-Point events, the relevant information would be forwarded to LGC by the IHRB EVSA.

The processing and analyses of the IHRB's samples are consistent with that for other Thoroughbred racing regulators, using agreed screening SOPs, although there are very useful arrangements customised for the IHRB for the reporting of AAFs, including for the early notification of adverse screening findings that assists in facilitating the prompt follow-up and investigation of the finding through early unannounced OOCT and premises inspections. Initial screening results for routine samples are reported within 7 days of receipt.

The processes for the reporting of negative samples and the notification of adverse analytical findings are consistent with international best practice for the sample types submitted.

Once there is sufficient scientific evidence arising from the screening data that is highly indicative of the presence of a prohibited substance in the A part of the sample, another portion of the A sample is taken to conduct a confirmatory analysis which is designed to obtain analytical data that supports the identification of the substance according to internationally agreed criteria.

Once a finding is confirmed in the A portion of the sample, the result is communicated to the IHRB who then notifies the trainer, providing them with the options for the analysis of the B sample (referee or counter analysis).

Recommendation 6

The IHRB should consider overhauling the Rules regarding the referee analysis of the B sample. (High priority)

This recommendation follows an examination of the relevant provisions in the IHRB Rules of Racing and Irish National Hunt Steeplechase Rules (the Rules) and the "Industry-Wide Policy on Prohibited Substances/Doping Control (2018)" relating to the referee analysis of the B sample.

This review does not intend to specify a particular model for the IHRB to consider for the referee analysis of the B sample, other than to recommend that rules should be drafted that are sufficiently robust and flexible in order to deal with the complexities arising from new and emerging doping problems such as gene doping, peptides and proteins and other novel substances, and to mirror international best practice.

Recommendation 7

The IHRB should consider the long-term storage of selected blood and urine samples. (Low priority)

Currently, the IHRB specifies the long-term storage of all hair samples after their initial analysis has been completed. However, there would also be merit in the long-term storage of specified blood and urine samples, both race-day and OOCT samples, significantly increasing the range of substances that might be detected than just from stored hair samples alone. The author is aware of certain jurisdictions where blood and urine samples from all Group 1 first 3 placegetters are set aside for long term frozen storage. For blood samples, this may require a recorded and independently witnessed plasma separation step to ensure proper chain of custody.

Specified OOCT blood and urine samples should also be set aside for long-term storage based on intelligence and any suspicious findings during a premises inspection and in situations of dramatic race form irregularities.

The rationale for long term storage is the ability to re-test a sample previously declared negative, at a later time when there is new laboratory technology and improved capability and sensitivity to detect prohibited substances that were previously undetectable, and especially pertinent for substances prohibited at all times.

The notification to industry by a racing authority that there is a policy of long-term storage of samples can act as a deterrent to the abuse/misuse of those prohibited substances where there is a perception that they are undetectable.

Rules and policies will need to be drafted that deal with the processes and implications for sample storage and retrospective testing. Matters such as the chain of custody and laboratory SOPs in the handling and analysis of samples, the duration of storage, whether or not a horse is disqualified from its race on a positive retrospective test, and the culpability of the responsible person (RP) are some matters to be considered. By way of example, the Australian Rules of Racing give racing authorities wide discretion in the handling of the results of analysis of stored samples, where “analyses may be used at the discretion of a Principal Racing Authority (PRA) or the Stewards, including for the purpose of investigations, inquiries, intelligence and/or prosecuting breaches of these Australian Rules” (AR 259 (10)).

This will be a longer-term objective as there will be complexities to deal with regarding the consequences of the detection of an AAF in the re-analysis of a stored sample, and such an initiative will likely need to be introduced in collaboration with the neighbouring major racing jurisdictions and with the cooperation of the other IFHA Reference Laboratories.

Recommendation 8

In collaboration with LGC, the IHRB should keep a close watching brief on novel approaches to anti-doping control. (High priority)

LGC is at the forefront of research and development into new approaches to EAD control. This includes gene doping detection, the monitoring of biomarkers and longitudinal profiling of certain substances prohibited at all times. Gene doping has been recognised as a potential threat to horseracing for a number of years but only a few racing laboratories have focussed on this area.

Certain jurisdictions are also extending longitudinal testing profiles of certain biomarkers into an equine "biological passport". This is an approach that is in its early development phase in horse racing, and there are current limitations to the extent of its application, but the associated research might be useful in the generation of background data on the natural concentrations of a range of biomarkers and other molecules. In the jurisdictions in which it is being developed, such profiling is restricted to a small group of elite level horses that are sampled at frequent intervals. At the current state of development, this approach is useful for intelligence and follow-up work where a particular issue is identified in a particular horse that might lead to the adoption of certain future sampling strategies for that horse and its stablemates.

Future provision of laboratory services

The author notes the recommendation of the Joint Committee on Agriculture, Food and the Marine, supported by Horse Racing Ireland, that there should be a state-of-the-art laboratory established in Ireland for the testing of samples from Thoroughbred horses taken in and out-of-competition, and at stud and sales. A full procurement process for the provision of laboratory services for IHRB is due to commence in 2022.

This procurement process should be a rigorous one that ensures that the laboratory capabilities and the range of services that are to be provided are at least consistent with those offered by LGC. While there would be many benefits in having a facility based in Ireland, there would also be considerable costs involved in building and equipping the laboratory, as well as in recruiting the expert and suitably qualified and experienced staff required for its operation.

There is a diverse range of entities providing laboratory services to racing regulatory authorities around the world, including:

- in-house laboratory facilities funded and managed by the racing authority (for example, Racing NSW's Australian Racing Forensic Laboratory),
- corporate entities co-owned by the local racing codes (for example, Racing Analytical Services Limited, Victoria, Australia),
- facilities such as the Equine Analytical Chemistry Laboratory at the K L Maddy Laboratory on the University of California (UC) Davis campus, part of the California Animal Health and Food Safety Laboratory System (CAHFS) that operates in partnership with the California Department of Food and Agriculture and UC Davis,
- large corporate entities where the provision of laboratory services to horse racing authorities is just one part of their business activities (for example, LGC).

With the author having had experience with the in-house model, there are certain operational and integrity synergies where Stipendiary Stewards, investigators, veterinarians and laboratory personnel employed by the one regulator work together in a collegiate fashion to deal with equine anti-doping matters, from sample collection, sample transport, sample analyses, investigations, OOCT and research, and supported by the authority's secure in-house data platforms and integrity oversight mechanisms.

Sampling strategies

Issue 2 (January 2022) of the IHRB *Equine Anti-Doping Report*[1] provides a breakdown of sample numbers and types collected in Ireland throughout 2021 and the number of AAFs confirmed. The publication of this up-to-date information is to be commended.

Recommendation 9

The IHRB should continue to make available in the public domain information on sampling statistics, but improve their usefulness by correlating them with the total number of runners. (Medium priority)

For the purposes of transparency, racing authorities should make public the annual statistics on sample numbers and sample types that can be compared with published information on the total number of runners (or starters) and, if figures are available, the total number of horses that are eligible to compete. For example, in Australia, some of this information can be gleaned from the annual reports of Racing Australia, the Principal Racing Authority of Australia, and state-based regulators such as Racing Victoria and Racing NSW [2, 3, 4] and in the USA, the annual report of the California Horse Racing Board[5].

Recommendation 10

The IHRB should review its race day sampling strategies and racecourse facilities used for sampling with the view to increasing total in-competition samples collected, including the adoption of routine pre-race blood sampling. (High priority)

Evidence provided at the Joint Committee hearing on 8 July 2021[6] indicated that the in-competition "sampling pressure", that is, the number of samples taken per runner, for the IHRB was comparable with that of the British Horseracing Authority (BHA). However, it is less than for other comparable jurisdictions such as France, and jurisdictions in Australia, Asia and the US. In these other jurisdictions, more horses can be post-race sampled per race and routine pre-race blood sampling also occurs.

For racing authorities in Australia, in addition to post-race urine samples collected from all winners and other horses as directed by the Stewards, full regulatory pre-race blood samples from selected runners can be collected at many race meetings in these jurisdictions, especially the top tier metropolitan meetings. These pre-race blood samples can be analysed for plasma TCO2 and a full complement of other prohibited substances. Sampling pressure will be further increased for Group 1 and Special Conditions races, where up to 3 or more horses can be urine and blood sampled post-race, and where the entire field can be pre-race blood sampled. The horses sampled at a particular race meeting are listed and notified to the public in the post-race Stewards' Report published for each meeting.

Another practice that increases the sampling pressure is the pre-race collection of urine samples from selected horses as soon as they arrive on-course. Such horses may be disinclined to produce a post-race urine sample but will more readily produce a sample after alighting their horse transport.

At most IHRB race meetings, a post-race urine sample is collected from every winner, and if the horse does not pass a sample, a post-race blood sample is collected. A useful recent initiative is that non-routine post-race samples are now also collected as part of a less predictable approach to race day sampling.

The author is informed that at most tracks there are two urine collection stables, a situation which essentially limits routine post-race collection to one sample per race and the occasional non-routine sample. The urine sampling process can take up to 30 minutes or more, by the time the horse is washed down, is walked to relax and cool it down, the time for urine to be passed and then the packaging and sealing of the sample. In the meantime, there may be a horse from the previous race still occupying the other stable.

All winners should be sampled post-race. At top tier race meetings, attempts should be made to collect two post-race urine samples per race, including the winner, and blood samples collected if a horse does not pass a urine sample. For Group and Grade 1 races, at least two horses should be post-race sampled (the first two horses or winner and beaten favourite or as otherwise directed by the Stewards) with both blood and urine collected.

In considering this recommendation, the IHRB and Horse Racing Ireland (HRI) will need to review racecourse facilities available for sampling and consider the extra staff that will be required to increase post-race urine sample numbers and to facilitate the possibility of the collection of selected pre-race urine samples.

It is noted that 314 race day hair samples were collected by the IHRB in 2021. While the introduction of race day hair sampling is a commendable initiative, an efficient use of resources, and very useful especially in relation to anabolic steroids and the detection of historic exposure to certain other prohibited substances, there is still the need for an adequate number of race day blood and urine samples to be collected to ensure the ability to detect as wide a range of prohibited substances as possible.

Pre-race blood sampling

It is recommended that routine full regulatory pre-race blood sampling at race meetings be implemented by the IHRB. This would involve the pre-race collection of full regulatory blood samples (6 blood tubes packaged and sealed with eScanner data entry) from a certain number of horses as designated by the CVO or the racing Stewards.

The number of horses to be sampled from a particular race will depend on the quality of the race meeting as well of the race itself. For example, every runner in a Group or Grade 1 race could be subjected to pre-race blood sampling, full regulatory samples. However, for a typical top tier race meeting, the collection of in the order of a total 35 pre-race blood samples for the meeting would be achievable.

Pre-race sampling at this level would require an extra VA and VO in attendance at the meetings designated. The VA and VO would work together as a team, using one or more OOCT-style carry kits with the required number of *Berlinger* blood sampling kits to sample each horse in their own race day stable, held by their groom. Full regulatory blood samples would be collected, packaged and sealed, with data entry using the eScanner. There is likely to be the need for a review of the transport logistics for these samples to ensure as prompt delivery to LGC as possible.

The benefits of this approach include the capability of TCO2 testing, as well as testing for the full suite of prohibited substances as for a post-race regulatory blood sample, for all of the runners selected for pre-race blood sampling.

The author is aware of the current agreement between IHRB and the trainers whereby if pre-race bloods are to be collected, then all horses in that particular race must be sampled. This is not the case in other jurisdictions, in for example California and Australia, where there is targeted pre-race blood sampling on selected horses in a race, without detriment to the pre-race condition and state of the horses and with no evidence to suggest they are disadvantaged in the race when compared with non-sampled runners. Consultation should take place with the Irish Racehorse Trainers Association (IRTA) and any other relevant industry body as part of the implementation of this initiative.

This proposed initiative does not preclude the ongoing use of the i-STAT device for TCO2 spot checks if intelligence and circumstances dictate.

OOCT sampling

The present number of OOCT samples collected by the IHRB appears to compare favourably with other jurisdictions. Approximately 28% of all samples collected in the EADP are OOCT samples.

In addition to the intelligence led and risk based OOCT sampling strategies currently employed, there should also be emphasis on a more tailored and targeted approach to premises visits and sample collection, including based on reports received by the IHRB Confidential Hotline and from other sources.

Recommendation 11

The IHRB should review its OOCT strategies to increase the focus on high profile/high strike rate training yards and their pre-training and other related establishments. (High priority)

There should also be an increased OOCT focus on high profile/high strike rate training yards and their pre-training establishments. This approach has been utilised in other racing jurisdictions where routine OOCT visits occur regularly to particularly target top level horses competing in Group and Graded races before and during major racing carnival periods.

Traceability of Thoroughbred horses

The author notes the recommendations of the Joint Committee on Agriculture, Food and the Marine, supported in the "Industry-Wide Policy on Prohibited Substances/Doping Control (2018)" regarding the need to improve the traceability of Thoroughbred horses at all life stages.

Recommendation 12

This review supports HRI, IHRB and Weatherbys Ireland working together with DAFM to develop a system of full traceability of Thoroughbreds through all stages of life. (High priority)

This is a matter that is confronting racing jurisdictions around the world, particularly from a welfare point of view. There is a broader community expectation that racing regulators should have greater oversight of the welfare of Thoroughbred horses, from birth until retirement and beyond. Ideally, there should be systems in place that permit the timely notification of all horse movements at all life stages to help provide this oversight.

As the integrity regulator, the IHRB must be able to track the movements of all horses, especially those eligible to race, but also those at stud, so that the OOCT programme can be effectively implemented. The 2021 foal crop was the first to be issued with an e-passport and this initiative will permit greater traceability of those horses in the future. The ability to locate all horses at a particular point in time also assists in the management of an exotic disease incursion, for example.

Sampling history data base

Recommendation 13

The IHRB should develop a comprehensive sampling history database for each horse. (Medium priority)

There is great value in developing a database that records the detailed sampling history of all horses in the racing population, and which can be extended to horses sampled at sales and on breeding farms. Information such as the date and time of sampling, the type of sample (blood, urine or hair), whether a race day or OOCT sample, reported concentrations of threshold level prohibited substances such as cobalt and plasma TCO2 when measured, the notation of any irregularities not officially reported as AAFs by LGC, and any relevant intelligence relating to the horse or its samples can all be recorded. Such an initiative assists in planning future sample collection strategies and priorities for a particular horse or for the training establishment concerned, both in- and out-of-competition.

Integrity assurance

Recommendation 14

The IHRB should regularly review its recruitment and human resources procedures to ensure the highest level of probity of all staff associated with the EAD programme. (Medium priority)

The EADP is an important integrity function of the IHRB, and the probity of all staff associated with the programme should be beyond reproach.

In many racing jurisdictions, as part of the recruitment process for veterinary officers, sample collection officials (VA equivalents) and security staff, there would be the requirement for the potential recruits to have undergone a police background check to determine for the possibility of a criminal record, and to declare any conflicts of interest, whether they be real, potential of perceived.

The racing industry worldwide is very interwoven, and it is not unusual for employees of regulators to have relatives and associates working in the industry. For existing employees, there should be regular declarations of conflicts of interest so that they can be effectively managed during the conduct of their duties.

Working within the provisions of relevant workplace and privacy legislation, the IHRB should routinely review and update its relevant human resources policies and procedures for EADP staff. There should also be regular auditing of EADP staff compliance with policies and procedures.

Recommendation 15

The IHRB should regularly review, update and formalise EAD programme SOPs, have them readily accessible by the relevant staff, and conduct regular staff training seminars. (Medium priority)

The SOPs will also be an important training tool for new recruits, as would the webinars of the training seminars.

Recommendation 16

The IHRB should consider executing a memorandum of understanding with the Veterinary Council of Ireland to ensure the prompt referral and hearing of matters relating to the poor professional performance or the professional misconduct of practising veterinarians treating racehorses. (Medium priority)

In the US, the Association of Racing Commissioners International (ARCI) Model Rules of Racing dictate that veterinarians practising at licensed facilities, including racetracks and some, but not all, training centres are required to be licensed by the relevant state racing authority.

Likewise, in NSW and Victoria in Australia, veterinarians treating Thoroughbred racehorses that are in training and/or competing in those states must have a Permit (essentially a licence) issued by the racing authority, and trainers can only use the services of a veterinarian with a permit to treat their horses unless in an emergency. The principal intention of the Australian approach is to ensure veterinarians are more accountable to the Rules, especially in relation to the control and use of medications and prohibited substances. Veterinarians found to be in contravention of the Rules can be sanctioned if circumstances dictate. Conversely, another intention of the programme is to update and provide advice to veterinarians on changes to Rules, policies and procedures that impact on their professional practice.

It is acknowledged that an IHRB licensing system for veterinarians treating racehorses in Ireland would be unconstitutional, but there would be merit in ensuring the prompt hearing of matters by the profession's regulatory authority where it was found that a veterinarian's conduct in dealing with Thoroughbred horses breached the Rules or led to a breach of the Rules.

Industry guidance

This review commends the following initiatives providing guidance to the industry on equine anti-doping matters and located on the IHRB website:

- Policy on Anti-Doping vs Medication Control
- Anti-Doping Programme - How does Testing Work? – online video presentation
- Anti-Doping & Medication Control Rules – A Trainer/Handler's Guide – online presentation
- Anti-Doping & Medication Control Rules – A Vet's Guide - online presentation
- Elective Testing – What is it & how does it work?
- Responsible Use of Equine Medicines

The publication of the first 2 issues of the "Equine Anti-Doping Report" is also a welcome initiative which will be further enhanced by providing more context to the sample numbers and types reported.

Prosecution of adverse analytical finding (AAF) matters

Recommendation 17

The IHRB should examine the resources and staffing levels and structures that are required to ensure the timely hearing of matters relating to adverse analytical findings. (High priority)

In Issue 2 of the "Equine Anti-Doping Report", it is noted that there were 20 AAFs reported for race day samples and a further 4 AAFs reported for OOCT and Point-to-Point. However, there is no indication that any of these AAFs have been heard by the Referrals Committee process.

It is apparent that resources and staffing issues contribute to this situation. Under the current IHRB structure, extra full-time VOs and other relevant staff are required to assist in the completion of investigations and the finalisation of case files relating to the reported AAFs, in addition to performing the myriad other duties and responsibilities of the CVO and their team. The VO recruitment process has also been severely hampered by the pandemic and the global shortage of suitably qualified racing regulatory veterinarians.

However, there would also be merit in examining other structures and approaches for the AAF investigative process which might include the involvement of the Stipendiary Stewards and the Security and Investigations unit collaborating with the CVO and their team to assist in the conduct of investigations and therefore ensure the prompt completion of AAF case files.

The more timely hearing of AAF cases by the Referrals Committee would assist in ensuring the confidence of the broader community, the betting public and industry participants in the integrity of the EADP.

Recommendation 18

The IHRB should give consideration to a review of penalties issued for AAF cases. (Medium priority)

Penalties imposed for AAF infringements should be consistent with community expectations and sufficient to act as a deterrent to others. There are examples of penalty structures used in other jurisdictions, the best example being that found in the Model Rules of Racing of ARCI in the US where for each case, the inquiry body considers the classification of the detected substance according to the ARCI Uniform Classification Guidelines of Foreign Substances, but also takes into account the extenuating factors and mitigating circumstances of the case.

Also, from a deterrent point of view, there should be a review of the exemptions to an imposed fine as set out in Rule 96. In most jurisdictions, the trainer bears absolute liability in the event of a finding, even if the prohibited substance was administered unknowingly or it was determined that the Trainer had taken all reasonable precautions to avoid a breach of this Rule. This would also apply when the substance was administered or prescribed by a veterinarian.

Report of the Oireachtas Joint Committee of Agriculture, Food and the Marine

One of the terms of reference of this review was "To review the Oireachtas report in respect of EAD and assess the IHRB EAD plans and policies against that."

In addressing this matter, reference is made to the "Recommendations, observations and conclusions" of the Committee's Report, commencing on page 22 of the Report.

Respectfully, items 1, 2, and 3 are beyond the remit of this review.

Regarding item 4, "The Committee believes that an independent review of the horse racing industry by an outside body is needed to ensure that Ireland's procedures match international best practices", this review goes part way to examining the various policies and procedures that support the current EADP. However, the recommendation to conduct a full audit of previous tests as specified in points (a) to (e) is likely to require a deep and forensic analysis of both the IHRB and LGC databases relating to sample collection and analysis. LGC applies best practice methodology to the analysis of all IHRB samples, consistent with its other thoroughbred horseracing clients, and it is constantly improving its analytical capabilities in response to intelligence, its research programme and as new instruments and other technologies come online. Testimony of IHRB staff at the Committee's hearings indicated the significant improvements in sampling strategies occurring over the past 5 years, especially regarding OOCT. However, the adoption of Recommendations 9 and 13 of this review will address some of the Committee's concerns in this area.

In relation to recommendation 5 where the Committee provides its views on sampling regimes, the current IHRB VO and VA staff are suitably experienced and qualified to collect both in- and out-of-competition samples. Whether sampling of racehorses should be performed by DAFM-employed staff is a high-level policy decision and one beyond the remit of this review. The race meeting sampling strategies recommended by the Committee, while ambitious, are excessively focussed on hair samples, and would be better served by the adoption of Recommendation 10 of this review. There should be an appropriate mix of pre-race blood samples, post-race urine samples (and post-race blood samples where the horse does not provide a urine sample) as well as hair samples when deemed appropriate.

As recommended in this review, at top tier race meetings, in addition to routine pre-race blood samples, at least two post-race urine samples should be collected per race, and for Group and Grade 1 races, at least two horses should be post-race sampled (the first two horses or winner and beaten favourite) with both blood and urine collected. While race day hair sampling is an efficient use of resources, and very useful in relation to the detection of anabolic steroids and the detection of historic exposure to certain other prohibited substances, there is still the need for an adequate number of race day blood and urine samples to be collected to ensure the ability to detect as wide a range of prohibited substances as possible. I would counsel against the collection of random samples on the track just prior to the start of the race due to the risk to the safety and welfare of staff, jockeys and horses arising from the hyper-excitable state of competing horses at that point in time.

This review agrees with point 6 of the Committee's observations regarding the introduction of Authorised Officers as this initiative will permit unprecedented access to all horses at various life stages for testing and inspection.

Regarding point 7, Recommendation 1 of this review is that CCTV should also be installed in and around the Sampling Units of each racecourse.

The issues surrounding the establishment of laboratory testing capacity in Ireland, as outlined in point 8, are previously covered in this review.

This review supports points 9, 10 and 11 of the Committee's final recommendations.

Miscellaneous matters

- Medicines Register - new digital technologies should be explored that permit real time entry of treatments administered to horses by a trainer or their veterinarian into a secure online data base that can be accessed by the IHRB CVO and other relevant staff. Such technology is being explored by some other racing authorities.

- The "Substances and Methods that are Prohibited At All Times" list in the Rules should be regularly reviewed and updated. In addition to following the annual revisions to Article 6 of the IFHA International Agreement on Breeding, Racing and Wagering (IABRW), including those relating to gene doping and editing and new prohibited practices, the IHRB could also customise its prohibited at all times list by regularly reviewing the WADA substances prohibited at all times list.

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4. RNSW 20—21 Annual Report
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Appendix

– progress on the implementation on EAD aspects of the IHRB Strategic Plan 2019-23

To deliver effective equine anti-doping and medication control to protect the sport's participants, ensuring a level playing field and so instil international confidence in the Irish horse 'brand'.

To develop the IHRB's equine antidoping function to implement the 'Industry-Wide Policy On Prohibited Substances/Doping Control' Report published in July 2018. We will:

- Train, develop and support the IHRB Veterinary Officer Team as Authorised Officers under the relevant legislation in order that they can better fulfil their functions – *Achieved, ongoing*
- Implement anti-doping testing at public sales, breeding premises and elsewhere as set out in the Report – *In progress*

To educate participants about equine anti-doping. We will:

- Develop the feedback component of our existing Stable Inspection and Out-of-Competition programmes to educate participants and so try to prevent anti-doping issues – *In progress*
- Extend and deliver our existing education programme on equine anti-doping to reach more participants across the island – *Achieved (see https://www.ihrb.ie/7-horses-equine-anti-doping)*
- Review anti-doping cases to inform future approaches – *In progress*
- Hold regular anti-doping seminars/briefings and encourage licensee participation – *Achieved, ongoing (see https://www.ihrb.ie/7-horses-equine-anti-doping)*
- Enhance the anti-doping information we provide through the IHRB website and other means – *Achieved, ongoing – see https://www.ihrb.ie/7-horses-equine-anti-doping)*

Develop and maintain equine anti-doping partnerships and collaborations. We will:

- Continue to contribute to the activity of international racing regulatory teams both through the Committees of the International Federation of Horse Racing Authorities and others – *Achieved, ongoing*
- Develop closer partnerships and synergies with national agencies who have an interest in this area including, but not limited to, the DAFM and other sporting regulators – *Achieved, ongoing*

To develop & implement processes to manage equine anti-doping including adverse analytical findings. We will:

- Implement digitised solutions to improve the integrity of the anti-doping process from sampling to results management – *Implemented, ongoing development*
- Develop current procedures and processes to maximise the effectiveness of race day anti-doping – *Implemented, continue to refine*
- Establish procedures and processes in relation to non-race day anti-doping which considers best global practice – *Achieved, continue to monitor*
- Continue to develop the current investigative processes around adverse analytical findings with the ultimate aim of preventing future similar findings occurring – *Achieved, ongoing*