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# **INTRODUCTION**

#### 1.1 Minister's Foreword

In 2019, the Sport Ireland Institute continued to go from strength to strength in preparing our athletes for competition and supporting Ireland's high performance community.

As reflected in the results over the course of the last number of years, there is a real energy within high performance sport and the Sport Ireland Institute is a key factor fuelling this momentum.

While the Sport Ireland Institute is primarily focused on preparing our athletes to compete to the best of their ability on the international stage, there is a lot more going on behind the scenes that often goes unnoticed.

The holistic approach adopted by the experts in the Sport Ireland Institute is not just about developing athletes, but developing people. The increased focus on life skills, including advice on education, financial planning, dual-career planning and athlete-friendly employment schemes with both public and private sector organisations is paying dividends.

The comprehensive professional development opportunities afforded to Ireland's high performance coaches and performance directors by the Sport Ireland Institute means our athletes are in the best hands as they work towards Olympic and Paralympic Games and major international competition.

The Government's National Sports Policy 2018-2027 sets ambitious targets around high performance sport and the new Sport Ireland Institute Strategy, which is being published in 2020, will be one of the key factors in these targets being realised.

I thank all of the staff at the Sport Ireland Institute, the athletes, coaches, performance directors and support personnel for all of their hard work in 2019 and look forward to strong performances on the international stage in the year ahead.



#### 1.2 Chief Executive Foreword

The Sport Ireland Institute has had another year of growth and development supporting the athletes in the Irish High Performance system. The results from the annual sentiment survey continue to indicate high levels of impact on performance resulting from the range of support services provided by the Sport Ireland Institute team. The additional benefits accruing from the development of the 'HP Hub' at the Sport Ireland Institute, such as greater cross sport and service discipline knowledge sharing, indicate deeper and strengthened relationships in the high performance sector as we head into Olympic & Paralympic year.

The Sport Ireland Institute continues to seek to satisfy the growing support demands of the HP Sports as they target qualification for Tokyo 2020 and ultimately, success at the Games. I'm pleased that Sport Ireland has been able to steadily grow the budget for the Institute to meet the needs of the sports we partner with on that journey. This has been supported by a range of NGB's investing their own resources into the Institute to directly increase support provision to their sport.

The partnership with sports is essential to the impact Sport Ireland Institute can have on athlete performance. I'm pleased to see the formal partnerships with the Olympic Federation of Ireland and Paralympics Ireland coming to life and no doubt will have a significant impact on the performance of Team Ireland in Tokyo. I'm especially pleased to see many of the Sport Ireland Institute team officially appointed by the OFI and Paralympics Ireland to support Team Ireland at the games and pre games preparation camps.

Following the launch of the National Sports Policy and the development of the High Performance Strategy 2020-2029, the Institute Statement of Strategy has also been revisited to ensure system alignment. I'm pleased to see the Institute Strategy 2020-2024 launched along with this Annual Review 2019.

The Sport Ireland Institute continues to seek to satisfy the growing support demands of the HP Sports as they target qualification for Tokyo 2020 and ultimately, success at the Games.

I'm proud of the key support role the Institute plays for Irish sport and look forward to seeing it continue to grow with the implementation of the strategy from 2020-2024. I'd like to thank the team at the Institute for their continued professionalism, quality of their work and their commitment to excellence in service delivery to the Irish HP sports.

John Treacy

Chief Executive, Sport Ireland

#### 1.3 Director's Report

On behalf of the Sport Ireland Institute team, I'm pleased to present the Annual Report for 2019. This report outlines the extent of work carried out by the Institute team in support of, and in partnership with, Ireland's high performance sports in the key year for qualification for the Tokyo 2020 Olympic and Paralympic Games. In 2019, we increased our team of expert service providers to meet the increasing demands of the sports we partner with. Our resources prioritise those sports that are likely to deliver success at Tokyo 2020. The extent of direct service demand to sports and athletes in particular required us to focus on this area.

While we've been busy implementing the Institute strategy since mid-2018, the subsequent completion of the High Performance Strategy 2020-2029 required us to review and amend the Institute strategy to ensure the Institute as the key support delivery agency to the HP system remains fully aligned with state policy. The revised Institute Statement of Strategy 2020-2024 has been finalised and is being launched alongside the 2019 Annual Review Report.

This report will outline the range and quantity of services provided, identify the allocation of Institute resources across the various direct service disciplines on offer and present a report on the implementation of the strategy including highlights from each service discipline we offer. In addition, we continue to track athlete sentiment with the results of our annual survey of athletes presented. Our target is to maintain a satisfaction level with the quality of all support services above 80% year on year. I'm pleased that all disciplines led by our Heads of Service group have achieved that target in 2019.

The preparations for Tokyo 2020 stepped up considerably in 2019 in partnership with the OFI and Paralympics Ireland. 2019 represented the first full year of the OFI partnership with the European Games in Minsk providing a significant trial run for planning, preparation and performance support delivery ahead of Tokyo 2020. Additional support was also provided by the Institute Team at the European Youth Olympic Festival in Baku. The appointment of a host of personnel from the Institute to leadership roles on Team Ireland has significantly aided planning for the Tokyo 2020 Games. The partnership agreement completed with Paralympics Ireland in the summer of 2019 and the subsequent appointment of five Institute service providers to the Irish Paralympic Team has added great impetus to our support of Ireland's para athletes vying for success in Tokyo.

The work of the Institute team has been supported by third party partnerships with organisations that support our mission to Drive Excellence, Create Solutions and Impact Performance. We were grateful for the continued support from SAS and the National Dairy Council in 2019. We were delighted to welcome Boyne Valley Group and the National Orthopaedic Hospital Cappagh as new partners.

Finally, I would like to express my sincere thanks to all stakeholders of the Institute who have contributed to our growth, development and success. We look forward to continuing our partnership with the NGB's, CEO's, Performance Directors, coaches, performance support personnel and of course, the athletes. In particular, I'd like to acknowledge the team of staff and consultants at the Institute for their commitment, dedication and collaboration for the betterment of high performance sport in Ireland.

Liam Harbison

Director, Sport Ireland Institute

#### 1.4 Sport Ireland Institute Purpose, Background & Governance

#### **Purpose**

The Sport Ireland Institute was set-up to deliver high quality performance support services to Irish high performance athletes and sports. To do this we have created an environment, which influences, supports and ensures that talented Irish athletes will achieve sustained levels of excellence in elite sport. Sport Ireland Institute coordinates a network of highly experienced, quality assured service providers to help support this high performance environment ensuring that sports have access to the sports science and medicine supports that they need.

The Sport Ireland Institute works directly with the performance leadership of each sport in finalising Performance Support Partnership Agreements tailored to the vision and needs of that sport with a view to impacting on performance outcomes at major championships.

The Sport Ireland Institute also works closely with service providers in developing systems, structures and protocols to ensure that athletes and sports receive the best support possible.

#### **Background**

Under the Sport Ireland Act (2015), Sport Ireland's functions which are delivered in whole or in part by the Sport Ireland Institute are as follows:

- To encourage the promotion, development and coordination of, and the achievement of excellence in, competitive sport;
- To support elite athletes in achieving excellence in sport;
- To disseminate information concerning competitive sport or recreational sport

The Irish Institute of Sport which preceded the Sport Ireland Institute was established in 2007. In the intervening years, this unit of Sport Ireland has grown incrementally to a budget of €2.64m in 2019, is now situated at the heart of the Sport Ireland Campus and incorporates the High Performance Training Centre, which has become the dedicated training base for a number of Irish high performance sports.

#### Governance

Sport Ireland Institute is a division of Sport Ireland. The Institute is the high performance support delivery division of Sport Ireland, which works alongside the High Performance Unit (the high performance policy and investment division).

The High Performance Committee is a full subcommittee of Sport Ireland and provides oversight on the programmes and services of the Sport Ireland Institute and makes recommendations on high performance to the Sport Ireland Board, whom are the ultimate decision making authority of Sport Ireland.

The Director of the Sport Ireland Institute reports to the Chief Executive of Sport Ireland.

## **2019 HIGHLIGHTS**

#### 2.1 Tokyo 2020 Preparations

The EOC European Games in Minsk provided a great opportunity to road-test the effectiveness of the OFI/ Sport Ireland Institute partnership and trial plans for the Tokyo Games. The review survey of athletes and staff whom attended the Games drew a large range of additional comments specifically noting the contribution of the Sport Ireland Institute and OFI HQ team to their Games experience.

The OFI's evaluation report of the Minsk 2019 European Games drew the following conclusion:

"The positive working relationship between the OFI and SII was highly commented on and should continue to be fostered to ensure consistency of support to athletes across the cycle and through Games."

Other elements of the OFI/Institute partnership delivery are highlighted later in this review. These include:

- Appointments to Team Ireland for 2020 of nine of the Sport Ireland Institute Team.
- A team of five from the Sport Ireland Institute provided support to Team Ireland at the European Youth Olympic Festival in Baku.
- The Project Oversight Group and the Performance Support Leads groups met regularly to advance planning for Tokyo 2020
- The OFI Science & Medicine Commission was established with Prof. John O'Byrne appointed as Independent Chairperson.
- Institute support on a range of inspection and preparation visits to Tokyo and cities of pre Games holding camps including Fukuroi, Hamamatsu, Masuda, Narita and Miyazaki.
- Extensive research and planning on the heat, travel and acclimatisation strategies for Team Ireland.
- Hosting of a range of OFI events at the Sport Ireland Institute.
- Research, development and launch of the Tokyo 2020 Games Transition Programme.

In 2019, Sport Ireland Institute concluded a partnership agreement with Paralympics Ireland designating us as the 'Performance Support Delivery Partner for Paralympics Ireland'. The initial partnership delivery milestones included the appointment of five Institute team members to Team Ireland for Tokyo 2020 and the Pre Games Holding Camp in Narita City, and the development and rollout of the Games Transition Programme to Para athletes.

#### 2.2 HPC USAGE

One of the primary aims of Sport Ireland Institute is to be the hub for the High Performance Community of athletes, coaches, Performance Directors and performance support personnel. The level of usage of the Institute by all groups has increased significantly with a large amount of cross sharing of knowledge, experience and support evident across all groups.

The High Performance Centre has become a focal point for HP activity of many of the NGBs ranging from training and support services to hosting of events and NGB board and High Performance Committee meetings.

The headline figure of total number of visits to the Sport Ireland Institute grew to 13,963 in 2019. This represented a 47.3% increase from the 9,479 visits in 2018. The total number of unique users (athletes, coaches etc.) from a total of 28 sports grew substantially to 1482 in 2019.

A note of caution is required. The growth in usage must continue to be carefully monitored to ensure the quality of support services provided to athletes remains at the standard set. Despite the large increase in users and service appointments, the athlete sentiment survey identifies a minor drop in satisfaction levels across a number of disciplines. This indicates that the Institute is now at a usage level that if breached considerably could significantly diminish the quality of our service offering.

#### 2.3 Athlete Performance Impact

The primary purpose to performance support is to impact athlete performance at major championships. 80 medals were secured by Irish athletes at recognised World or European competitions in 2019. The Institute team provided support at many of these events to Irish athletes or on an ongoing basis within their sports programmes here in Ireland.

The results of the recent Sport Ireland Institute Sentiment Survey of athletes indicates the high level of satisfaction of athletes with the support provided by the Sport Ireland Institute. The satisfaction rating of 4.42 out of 5 (88.4%) from carded athletes is a highly satisfactory outcome, nevertheless it represents a decrease from the 93.4% score in 2018.

The additional commentary in the survey reflects some frustration from athletes unable to access the Sport Ireland Institute headquarters in Dublin due to their remote location as a primary indicator of the background to this decreased satisfaction rating. The issue of remote services is being addressed via the current strategy of the Institute.

#### 2.4 Sport Ireland Institute Strategy 2020-2024

Further to the completion of a new Irish High Performance Sport Strategy, the Institute Statement of Strategy has been reviewed and realigned to the new Irish HP Strategy.

The strategy was reviewed and amended by the original strategy steering group to fulfil the alignment requirement. The revised Institute Statement of Strategy 2020-2024 has been approved by the Sport Ireland Board and the High Performance Committee and will be launched alongside this Annual Review for 2019.

The revised strategy retains the six strategic priorities with some minor additions and altered the vision for the Sport Ireland Institute to:

"To be an essential support partner with Irish high performance athletes in achieving sustained and repeatable podium success on the world stage."

Further details on the strategy and its implementation are reported in section 6.

#### 2.5 HPX 2019 Conference

Sport Ireland Institute coordinated the 4th biennial HPX Conference in 2019 which was held at Tulfarris Hotel and Golf Resort on the 7th & 8th November. Over 200 invited delegates from the high performance community attended over the two days and contributed across a range of topics – primarily Games readiness for 2020 across all disciplines and sports. A central theme throughout was the well-being of athletes and the support teams throughout the coming 12-month period in the build up to Tokyo.

The event had a host of top class speakers including Steve Ingham (Supporting Champions), John Donnelly (UK Sport), Patricia Heberle (Team Ireland Chef de Mission) and a host of PD's, coaches and athletes through a range of panel sessions. Former Olympian, David Gillick, acted as MC for the event and provided great personal insight to many of the discussion topics.

In line with the focus on athlete welfare, the Tokyo Ready Transition Programme was formally launched at the event by Eoin Rheinisch, Head of Performance Lifeskills. This programme will offer a range of supports to athletes and staff in managing their transition through the Olympic/Paralympic year.





"Excellent - thought provoking and brilliant wrap up with key messages for each member of the audience no matter what their role." (HPX Delegate)

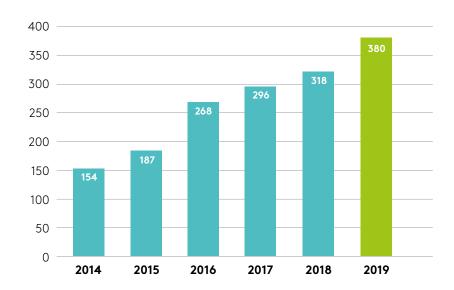


#	STRATEGIC AREA	GOAL	STATUS UPDATE	NOTE/ COMMENT
1	Unit Strategy	Completion of phase 1 of Institute Statement of Strategy 2018-2024	Complete	<ul> <li>Strategy revised at year end to align with new Irish HP Strategy. All objectives on track for delivery over the course of the term to 2024.</li> <li>Pathway support priority deferred to post Tokyo 2020.</li> </ul>
2	OFI Partnership	Ensure delivery of the Sport Ireland Institute commitment to the Olympic Federation of Ireland as per the Memorandum of Association signed in December 2018.	Complete	<ul> <li>Team of 6 Institute services providers supported Team Ireland at the European Games in Minsk and 4 Providers appointed to Team Ireland for the EYOF in Baku.</li> <li>Liam Harbison appointed as Deputy Chef de Mission for Tokyo 2020 with Phil Moore as Head of Performance Support.</li> <li>6 Performance Disciplinary Leads appointed by the OFI from the Institute service provider team.</li> <li>Science &amp; Medicine Commission Established.</li> <li>Tokyo 2020 Heat Travel and Acclimatisation strategy development and at implementation stage</li> </ul>
3	Performance Support	Deliver enhanced performance support services to the High Performance Sports delivering impact at major championships	Complete	<ul> <li>Medicine Services expanded with appointment of Head of Medicine.</li> <li>Performance Partnership Agreements completed with each of the priority sports.</li> </ul>
4	HP Community	Provide enhanced peer network and CPD supports for key personnel in the Irish HP Community – CEOs, Performance Directors, Coaches & Service Providers	Further Attention Required	<ul> <li>Sparking Performance Programme for PD's ongoing. Coach support requirements currently being established with PD's &amp; Coaches.</li> <li>CEO Check-In events established quarterly.</li> <li>Service Provider support CDP provided in Q4.</li> <li>Further development required in this area with Head of Capability &amp; Expertise to be appointed early 2020</li> </ul>
5	National Sports Policy	Ensure Sport Ireland Institute strategy is reviewed and aligned with the publication of the new Irish High Performance Sport Strategy and obligations within the National Sports Policy.	Complete	Strategy revised and approved by HPC on Nov. 26th.
6	Resources	Consolidate and build resource support with appropriate external partnerships that support delivery of the Institute mission to 'Drive Excellence, Create Solutions and Impact Performance'.	On Track	<ul> <li>Partnership with Boyne Valley Group launched in May 2019.</li> <li>SAS partnership engagement high.</li> <li>National Orthopaedic Hospital Cappagh Partnership signed in Dec. 2019.</li> </ul>

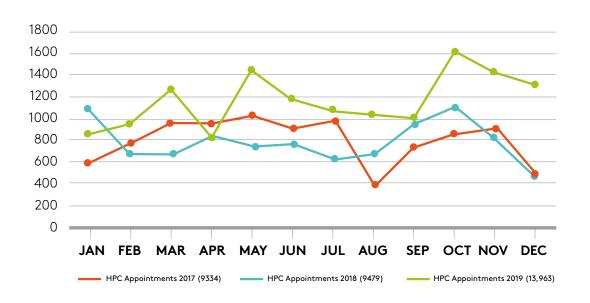
# 4

# 2019 USAGE AND PERFORMANCE SUPPORT STATISTICS

## 4.1 High Performance Athlete Usage of Sport Ireland Institute



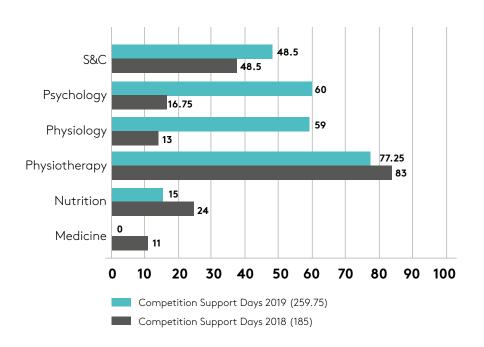
#### 4.2 Athlete/Visitor Appointments at the Sport Ireland Institute

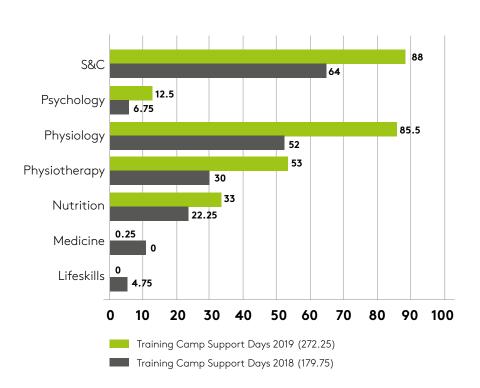


## 4.3 Number of Sport Ireland Institute Direct Support Days Per Sport

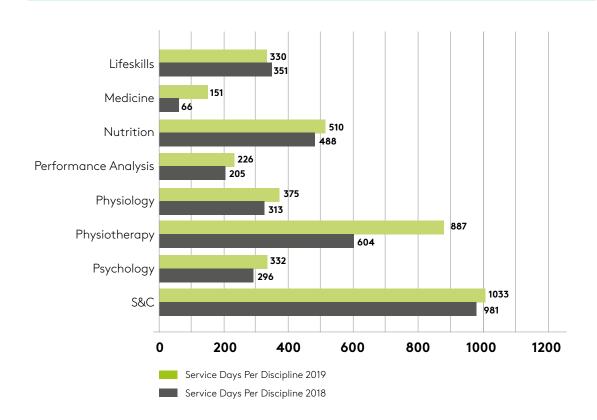
SPORT	DAYS	%
Athletics Ireland	256.1	11.28%
Badminton Ireland	21.5	0.95%
Canoeing Ireland	5.75	0.25%
Cycling Ireland	204.5	9.00%
Cricket	56	2.47%
Gymnastics	21	0.92%
Hockey	263.1	11.58%
Horse Sport Ireland	23.75	1.05%
Irish Athletic Boxing Association	244.75	10.78%
Irish Judo Association	7	0.31%
Olympic Federation of Ireland	141.5	6.23%
Other	10	0.44%
Paralympic Athletics	84.2	3.71%
Paralympic Cycling	119	5.24%
Paralympic Other	7.25	0.32%
Paralympic Swimming	104.5	4.60%
Pentathlon Ireland	214	9.42%
Rowing Ireland	225	9.91%
Sailing Ireland	76.25	3.36%
Swim Ireland	159.25	7.01%
Swim Ireland/Diving	5.5	0.24%
Taekwondo	17.5	0.77%
Team Ireland Golf Trust	1.75	0.08%
Triathlon Ireland	2	0.09%
Total Days	2271.15	100%

# 4.4 Sport Ireland Institute Provided Service Days at Camps & Competitions

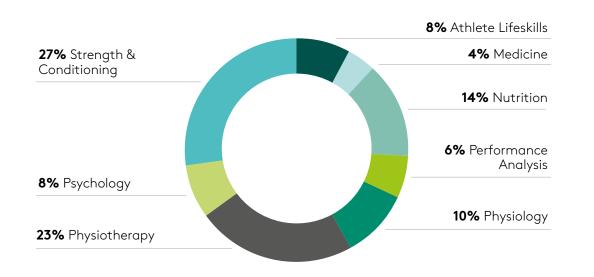




#### 4.5 Total Number of Service Days Per Discipline



#### 4.6 Performance Support Resource Allocation Per Discipline





## **ANNUAL SENTIMENT SURVEY**

The use of this anonymised survey is to track sentiment annually of the support services and staff at the Institute by the core athlete user group to ensure we are meeting athlete needs. The survey was issued in January 2020 to all carded athletes and marks the second consecutive year of the survey.

A separate survey of Performance Directors was issued with a range of feedback given. As the sample size (n=9) is so small, results are not posted in the annual review, however the feedback will form the basis of ongoing discussion with the performance leadership of high performance sports to ensure our services are meeting the changing needs and demands of the sports.

We set a target for all disciplines to attain a minimum 80% satisfaction rating and are pleased to report that all disciplines achieved this mark for the second year running. The response from athletes (n=54) has been extremely positive as illustrated below in the four key areas examined:

- Quality of support services
- Access and availability of support services
- Staff qualities
- Institute facilities

The key determinant of our success is the impact the Institute has on the performances of athletes in major competition. The survey asked the athletes to identify on a 5-point Likert Scale (from strongly disagree to strongly agree) to how they viewed the following statement:

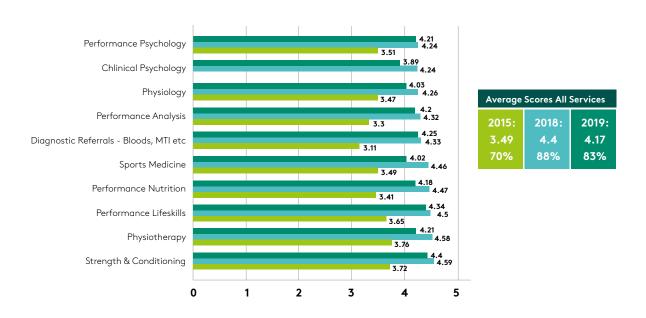
#### "Institute staff generally have a positive impact on my performance"

The result clearly indicated strong agreement with an aggregate score of 4.42/5 (88.4%) achieved. While this figure is a very positive result it represents a small drop from 2018. This figure along with a minor drop in sentiment across a range of services is reflective of the large increase in usage of the Institute in 2019 and the addition of Hockey Ireland and Cricket Ireland as key users of the High Performance Centre.

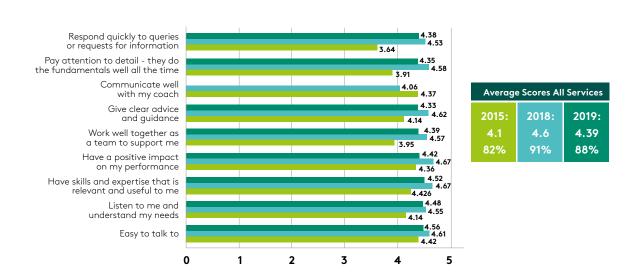
# Athlete satisfaction with the QUALITY of Sport Ireland Institute support services 2015-2019



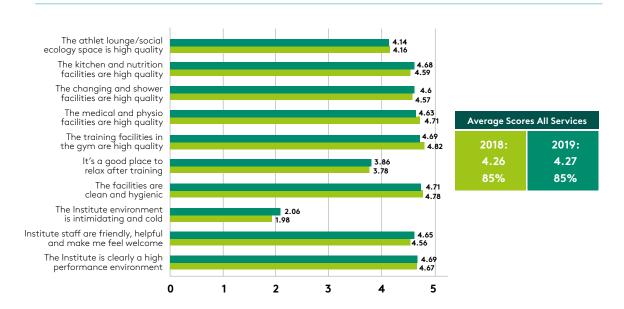
# Athlete satisfaction with the ACCESS & AVAILABILITY of Sport Ireland Institute support services 2015-2019



#### Athletes' experience of Sport Ireland Institute staff 2015-2019

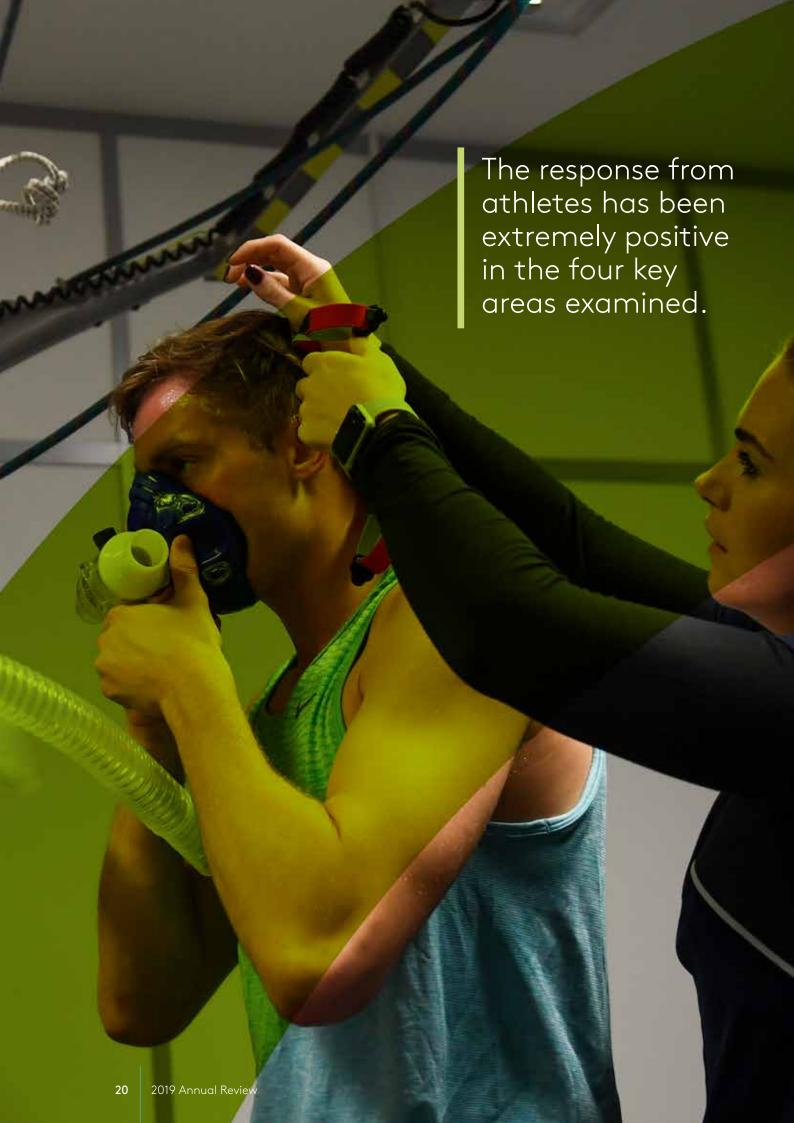


#### Athletes' experiences of the Sport Ireland Institute facilities 2018 - 2019



Note: High Performance Centre opened in April 2016, hence no figures for 2015 available.

The use of this anonymised survey is to track sentiment annually of the support services and staff at the Institute by the core athlete user group to ensure we are meeting athlete needs.



6

# SPORT IRELAND INSTITUTE STRATEGY IMPLEMENTATION

The Sport Ireland Statement of Strategy 2018-2024 continued its implementation during 2019 while simultaneously being revised to ensure alignment with the Irish High Performance Strategy 2020-2029. Subsequently, the new Sport Ireland Institute Statement of Strategy 2020-2024 was approved by the Sport Ireland Board and High Performance Committee late in 2019.

In the main the revised strategy retains the core elements of its original version with a number of changes to ensure full alignment with the High Performance Strategy as follows:

- The vision statement has been enhanced "To be an essential support partner with Irish high performance athletes in achieving sustained and repeatable podium success on the world stage."
- The philosophy and values of the High Performance Strategy have been adopted in full.
- Strategic priority 3 has been enhanced to include developing supports for 'Project Athletes', namely talented, medal potential athlete in non-priority sports who possess a clear coaching structure behind them.
- A review of the Head of Performance Support (HOPS) role post Tokyo to ensure the role is fit-for-purpose for the Paris cycle.
- Enhance the Performance Lifeskills support offering in support of the Sport Ireland Athlete Welfare Policy.
- Recruit a Head of Capability & Expertise and develop a C&E Strategy for the CEO's, PD's, coaches and service providers.
- Establish HEI HP Sport Consultative Group to maximise HP programme delivery and supports to HP sports with greater collaboration with the 3rd level education providers.

#### The six priorities for the Sport Ireland Institute for 2020-2024 are as follows:

Priority 1	Transition from a service provider to an essential performance support partner with the priority sports.
Priority 2	Develop multi-professional support teams in priority sports with a focus on greater impact on performance outcomes at major championships.
Priority 3	The Sport Ireland Institute will extend its support offering to pathway athletes of priority sports and project athletes* for us to achieve consistent, repeatable, long term success.
Priority 4	Provide a comprehensive suite of athlete lifeskills support services to Irish athletes to achieve their full potential through education, career and performance lifeskills support.
Priority 5	World class impact relies on world class expertise, which resides in our people. We will build the capability of our high performance people .
Priority 6	Grow the capacity, capability and reputation of the Sport Ireland Institute by the creation of real value-added resource partnerships with state agencies, education institutions and commercial organisations who share our values and our commitment to excellence.

The implementation status of each priority is detailed in Appendix 1.

7

# PERFORMANCE SUPPORT HIGHLIGHTS PER DISCIPLINE

#### 7.1 Performance Lifeskills & Advisory Service

The team delivered against strategic objectives set across the 3 main pillars of the service – Education, Performance and Career.

#### Education

- The Lifeskills Team hosted the Dual Careers Forum in June. This featured a Best Practice overview from Guy Taylor the director of TASS (Talented Athlete Support Service) in the UK and a workshop designed to improve collaboration between performance directors, coaches, sports coordinators, heads of sport from third level institutes and support providers.
- This event was preceded by a 2 Day CPD and networking opportunity organised by the team for our key 3rd level stakeholders.

#### Performance

- The Lifeskills Team in collaboration with the Psychology Team launched the Tokyo Ready Transition Programme at HPX 2019 following a lengthy period of research, consultation and design. The main workshop was piloted with 2 sports and will be rolled out to all Olympic and Paralympic sports in early 2020.
- Emma Saunders will be Paralympics Irelands Performance Support Lead (PSL) and Eoin Rheinisch will be the OFI's PSL for the respective Transition Programme's.

#### Career

- The Lifeskills Team delivered the 2nd AFE (Athlete Friendly Employer) network event to grow and develop the network. The event featured former Olympians Niall Bruton and David Gillick as guest speakers who discussed their own transition out of performance sport along with Deirdre Duke and Gillian Pinder from the Women's Hockey team who outlined their experience with their new employer EY. The event concluded with a workshop to create actions for all stakeholders to improve the experience of the network for athletes and employers alike.
- To date 27 athletes have engaged in the process and 7 athletes have been placed successfully using this service provided by the Sport Ireland Institute.
- Currently, 40 organisations across all sectors have signed up to the network.

#### 7.2 Performance Analysis

• The embracing of technology has also been advanced through the SAS partnership, signed in Nov 2018; the beginning of 2019 was when the expertise, tools and technology became a reality. In early 2019 we scoped, created and began first phase integration into 2 sports: swimming and boxing with an overview as follows:

#### Boxing

A significantly enhanced bout analysis report was created in conjunction with SAS consultants and expertise. All bouts are now analysed on a phase-by-phase basis, which examines all punches landed and conceded related to a number of key characteristics related to every attacking phase.

An intuitive interactive report brings all bout analysis into a centralised location significantly enhancing the ease with which this information can now be shared as of quarter 3, 2019.

#### Swimming - SwimQuery

The tool, which sits on the SAS data analytics platform allows for seamless comparison between individual athlete races with bench marking against the fastest athletes in the world across all Olympic events. The tool will add significant efficiency in how the race data is analysed, interrogated and shared.

#### • Performance Analysis Remote support

Given the changing nature of technology, tournament streaming and video sharing it has become more feasible to deliver certain elements of performance analysis support remotely. This was the case for tournament support for boxing in 2019, where Irish bouts and upcoming opponent footage was catalogued and shared using the video platform, dartfish.tv. Coaches and athletes can access all relevant competition and training footage from their phones, tablets or laptops anywhere in the world, wifi/data access dependent. While remote support is efficient and cost effective, it is reliant on the quality of footage provided by local organising committees of major events.

#### 7.3 Strength & Conditioning

- The S&C department continued to increase its quantity of S&C support to elite Irish athletes and increased footfall/usage at the Sport Ireland Institute S&C facility through 2019. The S&C team delivers regular, structured support to 13 sports covering approximately 115 athletes at the Sport Ireland Institute and selected remote locations.
- IRCSET PhD Scholar Claire Brady successfully completed her PhD in 2019 with support from the Sport Ireland Institute.
- S&C team members Eamonn Flanagan and Noel Murphy have been appointed to the lead S&C positions for the Olympic and Paralympic Games respectively.

#### 7.4 Rehabilitation

- The rehab team have been at the centre of our support to HP sports in 2019 and at major events and multisport Games. Head of Rehab, Sarah-Jane McDonnell led the physio team at the European Games in Minsk and has been appointed by the OFI to lead the physio/rehab team for Tokyo 2020.
- Rehabilitation service held six CPD sessions for campus based sports including the Cricket Ireland and the IRFU Rugby 7s support team, in an attempt to knowledge share and build a community of practice on campus.
- Gymnastics Ireland recognised Institute provider Paul Carragher with a special recognition award for his support to their World Bronze Medallist Rhys McClenaghan.

#### 7.5 Physiology

• In 2019, we supported athletes across 14 sports and increased our service delivery during training camps and competitions. We increased our travel days ensuring physiology support continues to meet the needs of our sports and developed our relationships with athletes and coaches, becoming integral support team members across a range of sports. We trialled strategies and monitored responses during competition as part of our preparations for Tokyo 2020. Weekly training load monitoring to athletes and coaches ensured remote physiology support could continue across multiple sports using Kitman.

- Preparations for Tokyo were a priority focus for physiology in 2019. We researched, developed and delivered
  travel strategies to multiple sports across the year. Identified eastward long haul trips provided opportunities
  to collect data, trial strategies and monitor athlete and staff responses. Strategies tested included support
  with flights, travel recovery, heat acclimatization and cooling.
- Physiology continued to collaborate with other Institute services in 2019. Working with nutrition, we purchased and trained both services teams in the use of a metabolic hood canopy system. This allows us to measure the resting metabolic rate of athletes for future projects including interventions for nutritional strategies and training. We also continued our salivary monitoring projects with targeted athletes.

#### 7.6 Performance Nutrition

- The number of athletes and sports serviced by the nutrition team grew again in 2019. This service provision was delivered away at camp and within Ireland, which is crucial to developing relationships with athletes but also by adapting personalised nutrition plans to suit training camp and competition environments. Named nutritionists are integral members of the service support team and over this year it was great to witness athletes periodise their nutrition plans. This is a direct result of more support and better relationship building so that athletes are confident in the process.
- The nutrition team received a Women in Sport grant to look at the effect of Premenstrual Symptoms (PMS)
  on women in sport. There are two parts to this project. A questionnaire study looking at the burden of PMS
  and the second phase, which is looking at the effect of omega 3 on reducing symptoms and the need for
  medication.
- The nutrition team have published several papers and abstracts across gut health, sleep and nutrition, energy availability and these are now part of the evidence base in elite sport.
- In July 2019, we began offering specialist GUT Health Service at the Sports Ireland Institute. The goal is to minimise elite athletes reported GI symptoms, optimise their gut health and overall performance and to help them achieve their goals. This is done through one to one consultation with athletes and as education awareness workshops for groups of athletes.

#### 7.7 Medicine

- The provision of medical services is central to the role of Sport Ireland Institute. Sports medicine incorporates the total medical care of athletes from pre-participation medical screening through to management at consultant level of appropriate illnesses or injuries. The services include diagnosis, investigation, treatment and rehabilitation of injuries and illness occurring during or as a consequence of training and competition. The Sport Ireland Institute has established a rapid access referral system with the National Orthopaedic Hospital at Cappagh and with other centres for specialist opinion and services.
- The performance medical service at the Sport Ireland Institute was greatly enhanced in 2019 with the appointment of Dr. James O'Donovan as Head of Medicine.
- The Sport Ireland Institute now operates a medical clinic for athletes across four days per week.

• The extent of medical testing, referral, and support provided to athletes by the Institute Medical Team in recent years is as follows:

Sport Ireland Institute Medical Tests	2017	2018	2019
Blood Screens	125	157	207
Imaging:			
- MRI	33	38	39
- Dexa	19	25	38
- X-Ray	2	6	12
- CT Scan	1	2	3
Cardiac Screening	42	30	28
Respiratory Screening	41	0	6
Guided Injections	4	4	3
Vaccines	77	68	353*
Referrals	16	16	43
Annual Screening/Medicals			106
Medical Education Sessions			4
VInjury/Illness Consultations			312

<sup>\*</sup>MMR boosters were offered in 2019 in addition to the regular Influenza vaccine.

• Following a major push, including the CEO and PD's of each sport the level of vaccine uptake as we head in to the Olympic/Paralympic year was increased significantly. The addition of the MMR booster option was also significant in immunising the team for Tokyo with the mumps outbreak in Ireland currently and a recent outbreak of measles in Japan.

#### 7.8 Psychology

- Following her trainee period with us. Jessie Barr was promoted to contracted service provider, having had her application for PQAP membership approved. She is now providing support to a range of sports.
- The clinical psychology service continued to expand, with demand expected to further increase in 2020. The service capacity was doubled in 2019.

#### 7.9 Capability & Expertise

- The Sparking Performance Programme continued to provide bespoke self-directed peer learning network for 16 Performance Directors under the programme leadership of Patricia Heberle.
- The HPX2019 Conference provided a significant HP community learning event in November 2019.
- A new post of Head of Capability & Expertise at the Sport Ireland Institute will be established in 2020 with a new C&E strategy developed for the HP community for the Paris 2021-2024 cycle.

# 8 SPORT IRELAND INSTITUTE EVENTS

The Sport Ireland Institute coordinated and/or hosted a range of events in 2019.

#### These included:

- HPX Nutrition Symposium in partnership with the National Dairy Council
- HPX2019 Conference
- Official Launch of Boyne Valley and Sport Ireland Institute Partnership
- Sport Ireland Dual Careers Event
- SAS/Sport Ireland Institute Media Day
- Team Preparation Days for OFI teams for the European Games and European Youth Olympic Festival
- Sport Ireland Institute Athlete Friendly Employers Network Event
- OFI signing ceremony with Fukuroi City for the holding camp base for Team Ireland in Japan.



# **SUPPORTING TOKYO 2020**

The core purpose of the Sport Ireland Institute is to support Irish athletes to succeed at the Olympic and Paralympic Games. Our support services across the four years of an Olympic cycle are targeted at the core client group of high performance sports and athletes. Our specific support to the OFI and Paralympics Ireland is detailed below in addition to the generic support provided to all aspiring Tokyo 2020 Olympians and Paralympians as follows:

- The Tokyo Ready Transition Programme
- Development and rollout of the heat, travel and acclimatisation strategy for Tokyo
- The development of cross sport team and relationship building via the athlete breakfast programme
- Targeted immunisation of the team against infectious diseases with the large scale administration of the influenza vaccine and the MMR booster.
- Hosting of the 2 day HPX2019 Conference with the theme Vision 2020 Clarity of Focus

# Support to the Olympic Federation of Ireland

The Sport Ireland Institute concluded a ground breaking partnership agreement with the Olympic Federation of Ireland (OFI) in 2018 to which the Sport Ireland Institute has been appointed



as the Official Performance Support Partner to
Team Ireland. Accordingly, 2019 marked the first
year full year of the partnership which saw activity
considerably ramped up and a marked increase in
integration between the two teams at the OFI and the
Sport Ireland Institute.

## The key highlights from the partnership in 2019 included:

- Performance support services to Team Ireland at the 2019 European Games in Minsk
- Performance support services to Team Ireland at the 2019 European Youth Olympic Festival in Baku
- Tokyo 2020 planning support by participation on inspection visits to Tokyo and pre games holding camp sites in Fukuroi, Hamamatsu & Masuda.
- The appointment of Liam Harbison as Deputy Chef de Mission and Phil Moore as Head of Performance Support for Team Ireland by the OFI.
- The appointment of six of the Institute Team as Performance Support Leads in key disciplines:
  - Medicine Dr. James O'Donovan
  - Physiotherapy Sarah Jane McDonnell
  - Strength & Conditioning Dr. Eamonn Flanagan
  - Performance Nutrition Dr. Sharon Madigan
  - Psychology Dr. Kate Kirby
  - Games Transition Eoin Rheinisch
- The coordination of the OFI Science and Medicine Commission under the independent chairpersonship of Prof. John O'Byrne.
- Monthly Project Oversight Group (POG) meetings to manage the delivery of the partnership aims and objectives.
- Hosting of a range of OFI events in the Sport Ireland Institute including Team Days, Fukuroi City signing ceremony, commercial engagements etc.

#### Support to the Paralympics Ireland



The Sport Ireland Institute and Paralympics Ireland signed a partnership agreement in August 2019 to which the Sport Ireland Institute has been appointed as

the Official Performance Support Partner to Paralympics Ireland. The partnership agreement arose from specific support requests received from the Chef de Mission for the 2020 Irish Paralympic Team, Denis Toomey.

The support model with Paralympics Ireland differs somewhat than the partnership with the OFI in that the Institute provide a range of support services to Paralympics Ireland excluding medicine and physiotherapy as the organisation has their own providers contracted, albeit they operate their clinics from the medical and rehab facilities at the Institute.

## The key highlights from the partnership in 2019 included:

- Ongoing regular performance support via annual performance plans with para athletics, para cycling and para swimming.
- Tokyo 2020 planning support by participation on inspection visits to Tokyo and the pre games holding camp sites in Narita City.
- The appointment of five of the Institute Team as Performance Support Leads in key disciplines:
  - Strength & Conditioning Noel Murphy
  - Performance Nutrition David Tobin
  - Physiology Dr. Ciara Sinnott O'Connor
  - Performance Analysis Alan Swanton
  - Games Transition Eoin Rheinisch
- Regular Paralympic Performance Committee meetings to manage the delivery of the partnership aims and objectives.
- Hosting of a range of Paralympics events in the Sport Ireland Institute including Para sports training camps and he launch of the Paralympics Ireland Strategic Plan.

# 10 FINANCE

2019 Income	€2,670,958
Sport Ireland Alloc.	2,313,300
Women In Sport Grant	30,000
SII Generated Income	327,658

2019 Expenditure	€2,641,401
Direct Programmes	2,313,300
Overheads	779,370
Capital Expediture	13,395



11

# **RESEARCH**

#### 11.1 Claire Brady

The aim of this research was to determine and compare the reliability of the isometric mid-thigh pull (IMTP) and isometric squat (ISqT) and investigate the relationship between isometric strength and sprint performance in track and field sprinters and field sport athletes. The research was conducted with a supervisory team at the University of Limerick and the scholar was awarded her PhD in December 2019. For this PhD, five studies were completed:

- **Study 1** involved carrying out a narrative review of the reliability of the IMTP and ISqT and the reporting of normative data. Results showed inconsistencies in the reporting of reliable variables leaving the level of reliability unknown in a number of studies. Peak force is the most reliable measure reported in the literature and can be used to determine an athlete's maximum strength capabilities.
- **Study 2** determined the intraday reliability of the IMTP and ISqT performed at the same knee and hip angle, and defined the usefulness of the tests and determine the magnitude of effect between the IMTP and ISqT among male and female athletes. Peak force was the most reliable variable and female athletes produced significantly higher peak force during the ISqT compared to the IMTP. The ISqT may be the preferred test for female athletes when examining maximum lower extremity strength.
- **Study 3** investigated the relationship between the IMTP and ISqT and sprint acceleration performance in track and field sprinters and determined whether differences existed in the relationship between the IMTP and ISqT and sprint acceleration performance between males and female athletes. Results detailed that among male sprinters, IMTP and ISqT measures largely correlated with 0 5 m time; athletes producing higher force values were faster over the first 5 m. There was no relationship observed with the female sprinters.
- **Study 4** assessed the relationship between the IMTP and sprint acceleration kinematics in male track and field sprinters. The main findings identified that higher force production in the IMTP resulted in higher velocities leaving the blocks, at step 2 and resulted in longer relative step lengths at block clearance. The study identified that some athletes were using a suboptimal technique and may have been unable to express their strength effectively and this may have explained some of the results observed.
- **Study 5** explored the relationship between the ISqT, countermovement jump (CMJ), reactive strength index (RSI) and sprint performance in hurling players and also to assessed if these tests could distinguish between performance levels. The key findings of this study were that force at 100 ms correlated with 0-5 m and 5-10 m sprint times, CMJ height correlated with all splits and RSI correlated with splits over 5 m. Further, force at 100 ms distinguished between performance levels from 0-5 m, CMJ from 10-20 m and RSI from 20-30 m; the faster athletes produced significantly higher force, jump heights and reactive index scores.

#### 11.2 Danielle Logue

The aim of this PhD programme was to identify low energy availability (LEA) risk in male and female athletes and to determine associations between LEA risk and injury, illness, health and performance in both gender groups. The identification of LEA risk may help to reduce musculoskeletal injuries, illness and improve performance.

The research has facilitated collaboration between the UCD School of Public Health, Physiotherapy and Sports Science and Sport Ireland Institute. Use of evidence-based research from UCD and the application of this knowledge in high performance sport highlights the importance of academic-workplace collaborations in contributing to the management of athlete health and performance.

This PhD is comprised of the following:

- The literature review described LEA, disordered eating patterns and eating disorders; reviewed the dietary intake of athletes with LEA; considered the physiological and health issues associated with LEA and reviews the potential impact of LEA on sports performance. The review outlined the evidence for nutritional interventions to improve health issues associated with low energy availability. Furthermore, the most appropriate and validated questionnaires and dietary assessment tools to carry out the prevalence and cross-sectional studies were identified in this review.
- The literature review update reviewed LEA, LEA risk, eating disorders, exercise addiction and exercise hypogonadal male condition (ExHMC); considered within-day energy deficiency in athletes and reviewed and updated the potential impact of LEA on sports performance. It also explored the limited research on athlete understanding of LEA and relative energy deficiency in sport (RED-S) and the associated health and performance consequences.
- A number of methodologies required consideration at the onset of this research, including the identification of appropriate screening tools for active individuals and co-operation between UCD, SII and the Irish Defence Forces (IDF) which influenced the study design and methods.
- Study 1 described the risk of LEA among active females in Ireland; these data were the result of an online study which was carried out between December 2016 and March 2017. This study also described the characteristics (for example, the level of sport: international, provincial/inter-county, competitive in sport at club level and recreationally active) of active individuals at risk of LEA and reports the factors associated with risk of LEA. This study that screened for risk of LEA in athletic and recreationally active females in Ireland identified 40% of active females as at risk of LEA using the LEAF-Q. The risk of LEA was 1.7 and 1.8 times more likely in international and provincial/inter-county athletes respectively, compared to those who were recreationally active. The results suggest that increased awareness of LEA and the development of appropriate energy management strategies for female athletes are necessary to ensure athlete health and performance
- Study 2 explored energy intake (EI), exercise energy expenditure (EEE), LEA risk and injury and illness incidence on four consecutive days on two separate weeks of a 12-week introductory tactical training programme (Male: 67; Female: 18). This study also compared participant mean dietary intake to the estimated nutritional recommendations for athletic personnel outlined in the Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine (ACSM) position statement on Nutrition and Athletic Performance and the European Food Safety Authority (EFSA) reference ranges for carbohydrate and dietary fibre for the general population. This study was the first in Ireland to examine energy intake across a prolonged introductory tactical training programme and demonstrated that low energy and carbohydrate intakes were frequently observed in this population. There were 274 reported health problems; 160 injuries and 114 illnesses. Furthermore, 10 of the 17 females (59%) were identified as at risk of LEA (LEAF-Q score of ≥8)
- Study 3 described the risk of ExHMC in active males; these data were the result of an online study carried out between November 2018 and January 2019. This study also described the characteristics and reports health problems interfering with training and competition associated with risk of ExHMC. This study also discussed the health and performance outcomes associated with risk of ExHMC. This study was the first to demonstrate risk of ExHMC in male athletes and those who are recreationally active competing in a range of sports. Risk of ExHMC, resulted in identification of 23.3% of 794 male participants. Risk of ExHMC was associated with a lower than normal sex drive rating and less than three morning erections per week, all questions pertaining to the last month. Risk of ExHMC was associated with lack of strength and the inability to make progress in strength training, easily interrupted sleep several nights a week, rarely or never feeling invigorated for training sessions/ready to perform well and rarely or never feeling happy or on top of life outside of sport.

## **PARTNERSHIPS**

#### 12.1 Boyne Valley Group

A multi-annual partnership with Drogheda based Boyne Valley Group was announced in 2019. The partnership involves the provision of foods for athletes to fuel at the Sport Ireland Institute, the National Sailing Performance Centre in Dun Laoghaire and the National Rowing Centre in Cork.

Using the hashtag #FuellingIrishSport, this partnership has resulted in comprehensive food travel packs being provided to travelling teams and the ability for the nutrition team nutritionists to give athletes food packs as part of their recommendations following 1-2-1 consultations. This is crucial as this allows athletes to translate the information they have been given to practical snack solutions.

#### 12.2 SAS

This partnership sees SAS providing a range of benefits to the Sport Ireland Institute including software licensing & hosting, consultancy services and education for key users of the SAS analytics tools. Focussed primarily on visual analytics tools by the Performance Analysis team, two specific projects are active with boxing and swimming with a view to significant performance impact at Tokyo 2020.

#### 12.3 National Orthopaedic Hospital Cappagh

Further to the longstanding relationship between the National Orthopaedic Hospital Cappagh (NOHC) and the Sport Ireland Institute (SII) to provide support to athletes in Olympic and Paralympic sports, both parties have agreed to develop the existing partnership to the benefit of both organisations and most importantly to enhance the care of Ireland's high performance athletes. The NOHC will provide rapid referral for high performance athletes, while the Institute will provide sport and exercise medicine services at NOHC and educational opportunities for trainees in sport and exercise medicine and physiotherapy.

#### 12.4 National Dairy Council

The National Dairy Council and the Sport Ireland Institute continued to partner in 2019 and in doing so agreed an ongoing annual partnership rollover. The partnership centres round the hosting of the annual HPX Nutrition Symposium and some NDC event appearances by the Institute's Performance Nutrition Team.

The Sport Ireland Institute has a comprehensive work programme for 2020 centred on the following key strategic areas and accompanying high level goals:

#	STRATEGIC AREA	GOAL
1	Unit Strategy	<ul> <li>Launch Institute Statement of Strategy 2020-2024 following alignment with Irish HP Strategy 2020-2029.</li> <li>Implement 2020 actions with specific emphasis on developing action plan for delivery of strategic priority 3 - extension of support offering to pathway athletes and project athletes.</li> </ul>
2	Tokyo 2020 Olympic and Paralympic Performance Support	<ul> <li>Fulfill the commitments of the Sport Ireland Institute with the OFI and Paralympics Ireland in accordance with MOU's with each.</li> <li>Review of the partnership with each post Games.</li> </ul>
3	Tokyo 2020 Games Transition Programme	<ul> <li>Implementation of the Tokyo Ready Transition Programme for all Olympic and Paralympic Athletes competing at the Games.</li> <li>Support includes detailed post games transition planning early in 2020, transition workshops for athletes, significant others and support staff, in-games and post games check-ins and support, psych and debrief support post games.</li> </ul>
4	Paris 2024	<ul> <li>Review the Institute HOPS support model to sports with a view to enhancing its impact and effectiveness for the Paris 2024 priority sports.</li> </ul>
5	HP Community	<ul> <li>Develop a new Capability &amp; Expertise Strategy led by the Head of C&amp;E to prioritise support to best practice knowledge sharing networks for key groups including CEO's, PD's, Coaches and Service Providers through to Paris 2024</li> </ul>
6	Resources	<ul> <li>Secure further 3rd party partnerships that bring additional benefit to Institute Services while maintaining and enhancing support from existing partners.</li> <li>Develop a capital replacement plan for the HP equipment in the Institute HPC</li> </ul>



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# APPENDICES

# 14.1 Appendix 1 - Sport Ireland Institute Statement of Strategy Implementation 2019

Please note: Priorities listed relate to revised strategy agreed for the period 2020-2024.

Priority 1: Transition from a service provider to an essential performance support partner with the priority sports

Estimated Completion: 40%		
How it will be achieved:	Status at Q1 2020:	
We will extend the Service Level Agreement to an NGB/Institute Performance Partnership Agreement with responsibilities, targets and accountabilities clearly assigned to each party.	Performance Partnerships agreements now in place with the priority sports for 2019-2020.	
2. We will work in partnership with the HPU to coordinate the performance planning process with the HP sports.	1st phase of Paris planning process initiated – Self- assessment review of NGBs to be returned to HPU by end of Q1.	
3. The Head of Performance Support (HOPS) role in each priority sport will be adequately supported and resourced to impact performance outcomes. Post Tokyo 2020, the roles of the HOPS and their impact will be assessed with a view to developing future strategy for the HOPS model.	HOPS role in each sport varies considerably in terms of scope and role depth. Response form PD's is of the role having significant impact. Review of HOPS role to be coordinated post Tokyo 2020.	
4. The level of support to each sport will align with the tiering of sports during the implementation of the Irish HP Strategy.	This process has been commenced and will be further refined in the Paris cycle. Sports retain the option to invest additional own resource to attain high levels of support.	

#### 2020 Actions:

- Completion of the Paris cycle planning and investment process with the HPU
- Review of HOPS role to be conducted post Tokyo 2020.
- Institute support model to NGBs for 2021-2024 to be developed in line with HP Strategy tiering and new Performance Partnership Support Agreement to be developed.

Priority 2: Develop multi-professional support teams in priority sports with a focus on greater impact on performance outcomes at major championships

Estimated Completion: 60%			
How it will be achieved:	Status at Q1 2020:		
<ol> <li>Head of Performance Support (HOPS) will work closely with the Performance Director of their sport to identify the needs of the athletes/squads.</li> </ol>	Heads of Performance Support role has completed two years of operation with the Performance Directors of each sport. The rollout of the HOPS role has brought challenges but has resulted in significantly greater collaboration with key sports and their Performance Director in particular.		
<ol> <li>Led by the HOPS in each of the priority sports, support staff will work to a set of agreed goals that are centred round the performance of athletes and teams.</li> </ol>	The Head of Performance Support is responsible for matching the support requests from sports with the resource availability across each service area in the Sport Ireland Institute. As the HOPS is embedded with the Performance Director, the performance questions emerge for the HOPS to seek solutions from the various institute supports available.		
3. Athlete squad profiling will be a core component of this system and appropriate online resources will be deployed to achieve a shared clarity of purpose and focus.	Goalscape is available to the key performance staff and service providers for each sport utilising it.		
4. Robust communication, within the team and with the HP staff in the sports will ensure that the team stays focussed on the performance issues and resolve conflicts quickly and effectively.	Regular team reviews have greatly improved communication in the majority of sports and are the bedrock of success with the HOPS model. Some sports still to fully adopt the model.		
5. Planning, evaluation, debrief and review processes will be established in each sport to provide feedback to the support team on their effectiveness.	This is an ongoing process to ensure feedback loops exist as standard in each sport, led by the Performance Director. Annual programme reviews by sports are becoming more common with clear post review action plans impacting on future programme design and rollout.		
6.An annual anonymised sentiment survey of athletes using Institute services will be developed to assess standards of delivery and impact of Institute services on our key client group.	The quality of each support discipline in the Sport Ireland Institute was rated very high in the Sport Ireland Institute Annual Sentiment Survey for 2019.		

#### 2020 Actions:

- Additional training opportunities to be identified and rolled out for HOPS to maximise their impact with sports.
- Increased resource time to be made available to Heads of Performance Support to have greater impact in their HOPS role.
- In-sport effectiveness measurement and feedback systems to be developed with each sport.
- Review of HOPS assignment by the Institute to be undertaken to maximise effectiveness and provide opportunities for additional Institute team members to take on HOPS roles for Paris 2024.

Priority 3: The Sport Ireland Institute will extend its support offering to pathway athletes of priority sports and project athletes for us to achieve consistent, repeatable, long term success.

Estimated Completion: 10%		
How it will be achieved:	Status at Q1 2020:	
<ol> <li>Grow the resource available with the priority sports to support larger numbers of athletes with Sport Ireland Institute services at earlier stages of the athletes development pathway.</li> </ol>	Some services have been extended to younger athletes such as athletics and via Team Ireland for the Youth Olympic Games, however major structural alteration has been deferred to 2021 and subject to available resource.	
2. A dedicated working group to identify the most appropriate delivery model for support of talented pathway athletes by Sport Ireland Institute across a number of sports will be set up with a target start date for the new programme in 2021.	To be commenced	
3. Build our capacity with the recruitment of additional service providers in key service areas to target support at elite junior and development athletes.	Post Tokyo 2020, subject to resource availability, a dedicated multi-disciplinary pathway development support team will be put in place to specifically support younger athletes to transition in to senior programmes.	
4. Further extend the opening hours of the Sport Ireland Institute High Performance Centre to ensure it's accessible to athletes in full-time education or in employment.	To be considered post Tokyo 2020 with a view to further extending standard opening hours at weekends.	
5. Develop regional Sport Ireland Institute service hubs.	Planning not commenced to date.	
6.Coordinate & deliver elite multi-sport camp offerings to pathway athletes.	Deferred to the Paris 2024 cycle.	

- Finalise terms of reference for the talent pathway working group.
- Appoint group members and convene meetings with a report target date of Sept 2020.
- Commence planning on the rationale, purpose, composition and costings to commence the Pathway development team in 2021.
- Open discussions with Rowing Ireland and UCC on the development of an Institute Regional Hub in Cork.
- Post Tokyo review standard opening hours for the High Performance Centre.

Priority 4: Provide a comprehensive suite of athlete lifeskills support services to Irish athletes to achieve their full potential through education, career and performance lifeskills support.

Estimated Completion: 50%		
How it will be achieved:	Status at Q1 2020:	
<ol> <li>Provide support to all Olympic and Paralympic pathway athletes to engage in education, and/or professional development during their competitive careers.</li> </ol>	Ongoing support provided by the Lifeskills Team of Eoin Rheinisch, Emma Saunders and Niall O'Donoghue	
Establish a Sport Ireland Dual Career Accreditation which sets the standard for 3rd level education providers in Ireland.	2nd Dual Career Forum hosted in 2019. Accreditation programme plan to be finalised in Q4 2020 with programme rollout target date of Summer 2021.	
<ol> <li>Secure access for Irish athletes to a wide range of learning opportunities anywhere in the world that is valuable and/or accredited.</li> </ol>	A longer term focus in the strategy. The Performance Lifeskills team will identify and seek appropriate learning opportunities and partnerships in the first instance.	
4. Promote engagement of Performance Directors, coaches and performance support personnel with the athletes lifeskills service of the Sport Ireland Institute because they recognise the impact it has on performance.	Ongoing work by the Lifeskills Team with the Heads of Performance Support to educate and engage with Performance Directors & coaches on the value of the lifeskills support programme to athletes and sports programmes. HPX2019 provided a great opportunity to highlight the lifeskills programme offering.	
5. Develop the scope and programme content for the Tokyo 2020 and Paris 2024 Games Transition Programmes to include coaches, Service providers and family members of athletes.	Tokyo Ready Transition Programme developed and launched in 2019. Programme rollout ongoing throughout 2020.	
Provide the highest standard of career coaching which allows athletes to choose career paths which fit their values, interests and strengths.	All three members of the Lifeskills Team are trained in the delivery of a consistent model of career coaching delivery including validated psychometric testing.	
7. Consolidate and grow the athlete friendly employers network which provides athletes with flexible possibilities for meaningful work experience including shadowing, internships, part time and full time roles.	7 active athlete placements commenced in 2019. 27 athletes have engaged in the service with 40 organisations signed up to the network.	
8. Collaborate and rollout programmes with other lifeskills providers including Rugby Players Ireland, Professional Footballers Association of Ireland, the Gaelic Players Association and the Women's Gaelic Players Association.	Ongoing communication with all groups continues for the purposes of knowledge sharing and optimising athlete supports in Ireland.	
<ol> <li>In support of the Sport Ireland Athlete Welfare     Policy we will continually evolve and adapt the     Performance Lifeskills supports to meet athletes     changing needs and ensure their experience     of the system is positive beyond their sporting     involvement.</li> </ol>	Athlete Welfare Policy to be finalised and launched by Sport Ireland in 2020.	
10. Collaborate with the Communications Unit of Sport Ireland to highlight the Performance Lifeskills support service as a flagship programme for the Sport Ireland Institute.	Ongoing collaboration with the Communications Unit to develop a communications plan.	

- Identify Tokyo 2020 Olympic & Paralympic longlist athletes for targeting of Performance Lifeskills support.
- Deliver the Tokyo Ready Transition Programme.
- Develop and finalise the programme for Dual Careers Accreditation for third level institutions.
- Host further Dual Careers Network and Athlete Friendly Employers Network events.
- Implement the Sport Ireland Athlete Welfare Policy through the work of the Institute team.
- Develop a Performance Lifeskills Communications Plan with the Sport Ireland Communications Unit.

Priority 5: World class impact relies on world class expertise, which resides in our people. We will build the capability of our high performance people.

Estimated Completion: 25%		
How it will be achieved:	Status at Q1 2020:	
Recruitment of a new Head of Capability & Expertise for the Sport Ireland Institute to lead and coordinate the development of the HP community.	Post approved by Sport Ireland Board. Recruitment target date of June 2020.	
2. High performance support personnel have a responsibility to strengthen and evolve their professional practice in order to continually impact athlete performance. We will build and support a collective learning community that enables multi professional collaboration which will accelerate learning, innovation and drive performance.	Sport Ireland Institute is building peer learning networks across the High Performance community. The level of engagement across each sector of the community will be enhanced through the term of the strategy.	
3. Implementation of the PEP Review report by building specific learning support strands for coaches, Performance Directors and performance support personnel.	Sparking Performance Programme ongoing for Performance Directors with 16 participants engaged under the programme leader Patricia Heberle. Not delivered in other areas to date. Will be a central theme of C&E strategy to be devised in 2020.	
4. Providing continuous professional development and continued learning opportunities for the Sport Ireland Institute team of staff and service providers.	Group CPD programmes are ongoing with 'Show & Tell's' a key feature within the Institute for shared learning. CPD grant programmes are provided to Institute team members annually. Multi professional CPD opportunities are prioritised. HPX2019 Conference delivered.	
5. Recruit cross sectoral resource support to enhance learning opportunities and capability of performance professionals that will enhance athletes' performance at major competitions.	Discussions ongoing with 3rd parties to support this approach. Will feature in the C&E strategy to be devised in 2020.	
6.Building customised programmes to enhance HP capability and expertise.	Sparking Performance ongoing. Delivery on hold pending Head of C&E and C&E strategy development in 2020.	
7. Creating best practice knowledge sharing networks across the performance support system including CEO's, Performance Directors, Coaches, services providers and other performance support personnel.	CEO Check-Ins quarterly established in 2019. Nature of the networks to be considered as part of the C&E Strategy.	
8. Development of the Sport Ireland Institute Thinking Centre to support the progression of the Capability & Expertise offering.	Discussions commenced re same with regard to the Masterplan for the Sport Ireland Campus.	

- Head of Capability and Expertise to be recruited.
- Capability and Expertise Department Strategy to be developed
- Knowledge sharing networks to be established

**Priority 6:** Grow the capacity, capability and reputation of the Sport Ireland Institute by the creation of real value-added resource partnerships with state agencies, education institutions and commercial organisations who share our values and our commitment to excellence

Estimated Completion: 25
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How it will be achieved:	Status at Q1 2020:
A partnership strategy will be developed which will identify key target partners in areas that can assist the Sport Ireland Institute to achieve its mission and vision.	4 partners currently in place – Boyne Valley Group, SAS, National Orthopaedic Hospital Cappagh and the National Dairy Council.
2. Existing Sport Ireland Institute partners will be targeted for multi-annual retention on improved terms to enhance Sport Ireland Institute services.	Ongoing – No renewals due in 2020 except for the National Dairy Council partnership which is secured on a rolling annual basis.
<ul> <li>3. We will seek partnerships with the HEI sector to: <ul> <li>Advance our support of research that impacts athlete performance by providing PhD opportunities.</li> <li>Finalise elite athlete friendly student policies.</li> <li>Progresses to implementing the EU paper on Dual Careers.</li> <li>Supports the development of the Institutes Practitioner Quality Assurance Programme (PQAP) or the establishment of a recognised professional body in Ireland for applied sports science and medicine practitioners and performance research personnel.</li> </ul> </li></ul>	1 new PhD programme commencing in March 2020. Seeking to add 1 new programme per annum.  Ongoing work within the development of the Sport Ireland Dual Careers Accreditation programme.  Collaborating with University of Limerick and other stakeholders on the establishment of an Irish Society for the Sport and Human Performance Research.
4. We will maximise HP programme delivery and support to HP sports by establishing a HEI HP Sport Consultative Group.	Not commenced to date.
5. We will seek to enter memoranda of association with International Institutes of sport that can complement, develop and strengthen our support service offering to Irish high performance sport.	Not advanced to date. Initial links forged by joining the Association of Sports Performance Centres (ASPC) in 2019.
6.Develop a sponsor/partner management plan to enhance our reputation as a partner who delivers.	Currently operating on a partner specific plan. Overarching framework to be developed.

- Develop the Institutes Partner Strategy and identify appropriate targets that support the mission of the Sport Ireland Institute.
- Finalise terms of reference for the HEI HP Sport Consultative Group.
- Appoint group members and convene meetings
- Support the development of the Irish Society of Sport and Human Performance Research.
- Identify potential international institutes of sport for collaboration, potentially via the Association of Sports Performance Centres.

# 14.2 Appendix 2 - List of international camps and competitions with Sport Ireland Institute service providers supporting

SPORT	EVENT	INSTITUTE SUPPORT
Athletics	Athletics Junior Camp, Monte Gordo, Portugal.	Paul Carragher - Physiotherapy Claire Brady - Strength & Conditioning
	National Junior Endurance Camp, Athlone	Paul Carragher – Physiotherapy
	Athletics U20 European Championships. Boras, Sweden	Paul Carragher - Physiotherapy
	Athletics World Championships. Doha, Qatar	Paul Carragher – Physiotherapy
	April 2019 Al Junior Camp, Alfamar, Portugal-	Danielle Logue - Performance Nutrition
Boxing	European Games - Minsk, BLR	Alan Swanton - Performance Analysis
	Womens Euro Champs – Madrid, ESP	Alan Swanton – Performance Analysis
	Womens World Champs – RUS	Alan Swanton - Performance Analysis
	Mens World Champs – RUS	Alan Swanton - Performance Analysis
	Pre European Games Camp Belfast (3rd-11th June)	Sharon Madigan - Performance Nutrition
	Boxing pre-World Championships camp, Germany	John Cleary - Strength & Conditioning
Cycling	Track training camp, Majorca  Pre-Worlds track training camp, Majorca	Ciara Sinnott-O'Connor - Physiology Jessie Barr - Psychology Ciara Sinnott-O'Connor - Physiology
	Track World Championships, Poland	Ciara Sinnott-O'Connor - Physiology
	Altitude training camp, Font Romeu	Ciara Sinnott-O'Connor - Physiology
	Pre-European Games training camp, Majorca	Ciara Sinnott-O'Connor - Physiology
	Tokyo Road Race Test Event, Japan	Ciara Sinnott-O'Connor - Physiology
	Pre-Europeans training camp, Majorca	Ciara Sinnott-O'Connor - Physiology
	European Track Championships, Netherlands	Ciara Sinnott-O'Connor - Physiology Jessie Barr - Psychology
	World Cup 3, Hong Kong	Ciara Sinnott-O'Connor - Physiology
	World Cup 4, Cambridge New Zealand	Ciara Sinnott-O'Connor - Physiology
	Feb 2019 Cycling Ireland Camp, Majorca, Spain	Danielle Logue - Performance Nutrition
	Ongoing support at Cycling support camps in Mallorca, Spain (6 x 3 day camps in 2019)	John Cleary - Strength & Conditioning

SPORT	EVENT	INSTITUTE SUPPORT
Gymnastics Ireland	World Championships, Berlin,	Julianne Ryan - Physiotherapy
<b>-</b> ,	Germany	
Hockey Ireland	June 2019 Hockey Ireland Camp UCD, Dublin	Danielle Logue - Performance Nutrition
	Training camp (match v Japan) Utrecht, The Netherlands	Ciara McCallion - Physiotherapy
	World Series, Le Touquet, France	Ciara McCallion - Physiotherapy
	European Hockey Championships, Antwerp, Belgium	Ciara McCallion - Physiotherapy Noel Murphy - Strength & Conditioning
	Training camp (matches v France) Bordeaux, France	Ciara McCallion -Physiotherapy
	Training camp (match v Belgium), Belgium	Ciara McCallion - Physiotherapy
	Olympic Qualifiers, Vancouver, Canada	Ciara McCallion - Physiotherapy
Modern Pentathlon	World Cup, May 2019	Kate Kirby - Psychology Martina McCarthy - S&C
	Pentathlon Europeans, Bath, August 2019	Kate Kirby - Psychology Martina McCarthy - S&C
	Training Camp at INSEP, France	Martina McCarthy - S&C
	World Cup 1, Cairo, Egypt	Martina McCarthy - S&C
	World Cup 2, Bulgaria	Martina McCarthy - S&C
	World Cup 3, Hungary	Martina McCarthy - S&C
Olympic Federation of Ireland	European Games, Minsk, Belarus	Phil Moore – Dep. Chef de Mission (HOPS) Dr. James O'Donovan – Medicine Sarah Jane McDonnell - Physiotherapy Jessie Barr - Psychology Eimear Crowley - Physiotherapy Sharon Madigan - Performance Nutrition Eoin Rheinisch – Performance Lifeskills
	EYOF, Baku, Azerbaijan	Julianne Ryan - Physiotherapy Eamonn Flanagn - Strength & Conditioning Jessie Barr - Psychology
	Olympic planning trips (Various) to Tokyo, Fukuroi City, Hammamatsu, Masuda City, Fuji and Izu.	Liam Harbison - Dep. Chef de Mission Phil Moore - Head of Performance Support Eamonn Flanagan - Strength & Conditioning Sharon Madigan - Performance Nutrition Sarah Jane McDonnell - Physiotherapy Eoin Rheinisch - Performance Lifeskills

SPORT	EVENT	INSTITUTE SUPPORT
Para Cycling	Track Cycling World Champs – Mar 19, Apeldoorn, Netherlands	Alan Swanton – Performance Analysis
	Pre-Worlds track training camp, Majorca	Ciara Sinnott-O'Connor - Physiology
	Domestic training camp, SII Dublin	Ciara Sinnott-O'Connor Toni Rossiter - Physiology
Para Swimming	World Para Swimming World Series – Glasgow – 25-28th April	David Tobin - Performance Nutrition Ciara Sinnott-O'Connor - Physiology
	Swimming Camp – Italy/Dublin –11- 27th August	David Tobin - Performance Nutrition Ciara Sinnott-O'Connor - Physiology
	World Para Swimming World Championships – London – 9-15th September	David Tobin - Performance Nutrition
	IPC World Series, Berlin	Ciara Sinnott-O'Connor - Physiology
	Warm Weather training, Fuerteventura	Ciara Sinnott-O'Connor - Physiology
	Para-Swimming World Championships, London	Ciara Sinnott-O'Connor - Physiology
Rowing Ireland	LW Training Camp, Banyoles Spain	Trevor Woods - Physiology Eimear Crowley - Physiotherapy
	Pre World Championships Training Camp with Heavyweights in Varese, Italy.	Eimear Crowley - Physiotherapy Sinead Murphy - Physiotherapy
	World Cup 3, Rotterdam, Netherlands	Sinead Murphy - Physiotherapy
	World Championships, Linz, Austria	Sarah Jane McDonnell- Physiotherapy
Irish Sailing Association	World Cup, Genoa, April 2019	Kate Kirby - Psychology
Swim Ireland	Pre-Worlds training camp, Hamamatsu, Japan	Toni Rossiter - Physiology Thomas Divilly - Physiotherapy

# 14.3 Appendix 3 - Published Papers

- Logue DM, Madigan SM, Heinen M, McDonnell SJ, Delahunt E, et al. (2019) Screening for risk of low energy availability in athletic and recreationally active females in Ireland. European Journal of Sport Science, 19: 112-122 doi:10.1080/17461391.2018.1526973
- Logue DM, Madigan SM, Delahunt E, Heinen M, McDonnell SJ, et al. (2019) Energy availability in physically active males and females across a 12-week tactical training programme. Medicine & Science in Sports & Exercise, 51(Supplement 382).
- Doherty, R., Madigan, S. Warrington, G. & Ellis, J. Sleep and Nutrition Interactions: Implications for Athletes. Nutrients, 2019, 11(4), 822-894.
- Sinnott-O'Connor, C., Comyns, T.M., & Warrington, G.D. (2019) Validity of Session-Rate of Perceived Exertion to Quantify Training Load in Paralympic Swimmers. Journal of Strength and Conditioning Research. (Online ahead of print)
- Eduardo Martinez-Valdes, Fiona Wilson, Neil Fleming, Sarah-Jane McDonnell, Alex Horgan, Deborah Falla. Rowers with a recent history of low back pain engage different regions of the lumbar erector spinae during rowing.
- Paul Carragher, Alan Rankin, Pascal Edouard. "A one-season prospective study of illnesses, acute and overuse injuries in elite Youth and Junior Track & Field athletes" published in an Athletics special edition of the Journal: Frontiers in Sports and Active Living.
- Dr. James O'Donovan. Airway Dysfunction in Elite Athletes O'Donovan et al (2020) Chapter 10, Triathlon Medicine (Springer).
- Comyns, T. M., Flanagan, E. P., Fleming, S., Fitzgerald, E., & Harper, D. J. (2019). Interday Reliability and Usefulness of a Reactive Strength Index Derived from 2 Maximal Rebound Jump Tests. International journal of sports physiology and performance, 14(9), 1200-1204.
- Claire Brady. Sports Biomechanics paper published in peer reviewed journals involved carrying out a narrative review of the reliability of the IMTP and ISqT and the reporting of normative data.
- Claire Brady. Two studies published in the International Journal of Sports Physiology and Performance

#### Peer-reviewed conference contributions: abstracts, oral presentations and poster presentations

- Poster presentation: "Attitudes of elite athletes and their support staff to the influenza vaccine" (Frank O'Leary)
- Poster presentation: Low energy availability in physically active males and females across a 12- week tactical training programme. Irish Nutrition and Dietetics Institute (INDI) and Fresenius Kabi Research symposium. Dublin, Ireland. 2019 (Danielle Logue).
- Poster presentation: Low energy availability in physically active males and females across a 12- week tactical training programme. American College of Sports Medicine (ACSM) conference. Orlando, Florida. 2019 (Danielle Logue).
- Abstract: Logue DM, Madigan SM, Delahunt E, Heinen M, McDonnell SJ, et al. (2019) Energy availability in physically active males and females across a 12-week tactical training programme. Medicine & Science in Sports & Exercise, 51 (Supplement 382).
- Oral Presentation: Sleep and Nutrition: Implications for Athletes. British Sleep Society Conference, Birmingham, 2019 (Ronan Doherty)
- Presentation: RCSI Faculty of Sports & Exercise Medicine Annual Scientific Conference. Presentation "Returning to Performance Post-Injury: Coping with the Psychological Challenges". September 2019. (Kate Kirby)
- Presentation: RCSI Faculty of Sports & Exercise Medicine Conference. "Mental Health in Elite Sport. The highs, the lows and the afterlife". March 2019. (Ella McCabe)
- Workshop on integration of "Trackfit Injury Prevention Warm Up to Endurance Junior regional Squads in Athlone (Leinster, Munster, & Connaught) (Paul Carragher)
- Paul Carragher won Best Poster at FSEM Annual Conference in Dublin for poster presentation: A one-season prospective study of illnesses, acute and overuse injuries in elite Irish Youth and Junior Athletics.

# 11.4 Appendix 4 - Keynote Addresses

#### Emma Saunders, Performance Lifeskills

- Student Sport Ireland Annual Networking Event 2019 Emma Saunders presented on dual career research and practice.
- TASS Dual Career Research Forum 2019 Emma Saunders presented on experiences of student athletes in Irish 3rd level Institutions.

#### Eoin Rheinisch, Head of Performance Lifeskills

• HPX 2019, Launch of the Tokyo Transition Programme

#### Danielle Logue, Performance Nutritionist

- Low energy availability in Ireland and nutritional considerations for the female athlete. Healthy Eating week at University College Dublin (UCD).
- Nutritional challenges in adolescent athletes. Swim Ireland #WePlay Proud to be Me conference.
- Challenging nutrition myths and finding a work-diet balance. European Week of Sport, Sport Ireland breakfast morning.

#### Sharon Madigan, Head of Performance Nutrition

- Balancing the books: energy cost of training. Endurance Al annual Meeting Athlone, Ireland. April 2019
- Microbes in Sport-The Potential Role of the gut microbiota in athlete health and performance. RCSI Annual Conference, Dublin, Ireland, September 2019
- Nutritional Supplements: Can they give the edge? INDI annual meeting, Sept 2019, Dublin Ireland
- Keep it simple to fuel your nutritional requirements. #WePlay Proud to be Me conference. Dublin, Ireland.

#### Ronan Doherty, Performance Nutritionist

• Sleep and Recovery: Implications for Athletes? Royal College of Surgeons in Ireland, Faculty of Sports and Exercise Medicine Conference, Dublin 2019

#### Antonia Rossiter, Physiologist

• Travel and Recovery Strategies for Tokyo 2020 HPX, November 2019

#### Kate Kirby – Head of Psychology

 All-Ireland Post Graduate Conference in Sport Science, Physical Activity and Physical Education "The importance of strong relationships in the psychology of high performance". AIT, May 2019

#### Paul Gaffney - Psychologist

• HPX Conference Keynote presentation, November 2019. "Leave No Stone Unturned For Your Athletes But Who's Caring For You? Your toolkit to effective Games self-care"

## Paul Carragher, Physiotherapist

• Paul Carragher delivered a Workshop on integration of "Trackfit Injury Prevention Warm Up to Endurance Junior regional Squads in Athlone (Leinster, Munster, & Connaught)

#### Eamonn Flanagan, Head of Strength & Conditioning

• Eamonn Flanagan delivered invited key note "Rethinking Reactive Strength" to the UK S&C Association annual conference in May 2019 Milton Keynes, UK.

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