



EVOLUTION OF THE AIS SPORTS SUPPLEMENT PROGRAM

The evolution of the AIS Sports Supplement Program is instructive in providing a case study of protocols and resources associated with managing the use of supplements and sports foods within the Australian high performance sport environment. It illustrates a model to deliver best practice around supplements and sports foods to support their safe, effective, and permissible uses by athletes.

BACKGROUND

The AIS Sports Supplement Program was developed as a multi-disciplinary approach to the use of supplements and sports foods within the AIS sports scholarship community. The activity was led by the AIS Department of Sports Nutrition following an internal review of the culture, knowledge and practices regarding supplements and sports foods within its populations of athletes and coaches in 2000. Key findings of this review in relation to changes in the environment around supplement use that had occurred over the previous decade, with specific insights into how these affected the AIS environment, are provided below. A schematic overview of the evolution of the AIS supplement program is presented in Appendix 1.

Changes in issues related to supplements and sports foods which have changed the landscape in which these products are used

- Although the position stand of many major sporting organisations is that athletes do not need to use supplements, this is out of touch with the practices of most athletes and ignores scientific evidence that some products are safe, effective and permitted for use in enhancing sports performance. These education messages do not resonate with athletes
- New research around some performance supplements (e.g. caffeine, creatine) has confirmed their benefits across a range of events or applications and has developed clear protocols of use
- The line between “supplement” and “sports food” is becoming blurred. Traditional sports foods (sports drinks, bars, gels) may contain ingredients considered to be performance supplements. A practical scheme to work with supplements in sports needs to be inclusive of all these products
- Major changes in the regulation of supplements in many countries have created opportunities for new substances to be included in products and to shift the burden of proof regarding the safety and efficacy of products away from the manufacturer. There has been an exponential increase in the total number of supplements and individual ingredients, making it difficult for sports scientists to keep pace with new products and ideas/claims. Athletes and coaches are usually unaware of the regulation of supplements and the many breaches that occur
- The rewards for good performances are higher and the margins of success are often tiny, providing incentives for athletes and coaches to consider any strategy or product that might claim to enhance sports performance by even small increments
- The Internet provides a significant increase in access to information about sports supplements, with much of this falling outside regulation (e.g. social media, chat rooms etc)
- Athletes have access to supplements outside their own country’s market and regulation via mail order, internet sales and increased international travel
- Supplements are commonly distributed via Network Marketing sales techniques, involving the recruitment of independent distributors to sell products to their own client base via personal testimonials
- There is a significant problem with anti-doping rule violations occurring among elite athletes due to their consumption of banned substances that are found in supplements, often as contaminants.

Particular concerns related to the use of supplements by AIS athletes

- AIS athletes and coaches do not consider AIS Sports Science Sports Medicine (SSSM) professionals to have expertise or credibility regarding sports supplements due to the conservative attitude of sporting authorities regarding supplement use. There is little engagement on this theme, and athletes/coaches look for advice from potentially non-reputable sources (internet, supplement companies, health food stores, peers) rather than appropriately trained professionals
- Issues that have been demonstrated to make a major contribution to performance (e.g. everyday diet, training, equipment, recovery strategies) are overlooked in favour of supplements because of the hyped marketing around their benefits
- Athletes are particularly interested in supplements and products with limited/no proof of benefits because they often have greater marketing hype than more conventional products
- Supplements and sports foods known to play valuable roles in sports performance are overlooked or poorly used (inappropriate scenarios of use, protocols that are not evidence-based) because of the lack of engagement with sports scientists

- Many athletes have a scattergun approach to supplement use – products are used intermittently or a range of products/ ingredients is used concurrently, removing any opportunity to document the benefits of individual products
 - > Products used by AIS athletes provide an “endorsement” which often allows the product to flourish without any need for scientific study
 - > Supplements carry the risk of side-effects, including anti-doping rule violations for AIS athletes
- Dealing with enquiries from the independent distributors of network marketed supplements is time consuming

2000–2012 IMPLEMENTATION OF THE AIS SPORTS SUPPLEMENT PROGRAM

To address the findings of this review, the AIS implemented a Sports Supplement Program within its scholarship environment, under the leadership of a inter-disciplinary Sports Supplement Panel and daily management by the Department/Discipline of Sports Nutrition. Key principles which underpinned this Program were considered novel and contradictory to conventional advice at the time of its inception:

1. Athletes and coaches will collaborate effectively with sports scientist/medicine professionals and sports administrators when there is willingness to support a small but valuable role for the informed use of supplements and sports foods within a sports nutrition plan
2. Supplements and sports foods can be practically managed via the use of a classification hierarchy that divides products into groups based on the strength of the evidence-base for their use, with an appreciation of the risk of an anti-doping rule violation. In the case of the AIS Supplement Program, four groups were identified [ABCD], with further stratification to identify strategies by which certain products could contribute to a sports nutrition plan. The placement of supplements and sports foods within these categories is a dynamic process that evolves with new knowledge and practice

A range of activities conducted within the AIS Sports Supplement Program were able to achieve different aspects of Best Practice around supplement use in a defined environment/population as well as provide general resources to the larger high performance sport network. These activities encompassed education initiatives, the integration of supplement provision into athletes overall performance nutrition strategies, facilitating supplement related research and governance. Further details on these are specified below.

Education

A website platform allowed continual update of information about supplements and rapid accessibility by members of the AIS (coaches, athletes, SSSM practitioners, administrators). Making this information freely available to the Australian high performance sports network, and the general/international sports community gained publicity and credibility for the Program and its stance on supplement use. External validation was important in enabling change within the AIS environment. Improved supplement education from practitioners who show knowledge and empathy around supplement use has been associated in other environments with greater use of evidence-based products (Wardenaar *et al.*, 2017; Garthe & Maughan, 2018). It may maximise the psychological (placebo) effect associated with supplement use, contributing to performance benefits (Hurst *et al.*, 2019).

Supplement Provision

Sports and supplements from Group A were provided to AIS scholarship holders using protocols that considered a risk to benefit analysis around their use, reminders about athlete responsibility for decisions and practices around supplement use, education around optimized protocols of use, and sourcing of products judged to be low risk of causing an anti-doping rule violation (ADRV). Risk to benefit analyses around supplement use, and protocols to promote Best Practice around different types of products (sports foods vs nutrient-support supplements vs performance supplements) were important in demonstrating differences between different products and their uses. Increasing availability of batched tested products has reduced the risk of ADVRs but cannot entirely eliminate this risk. However, an investigation of supplement practices of elite swimmers suggested that provision of product within the AIS system contributed to greater use of evidence-based products according to established protocols and reduced use of products with a poor evidence-base, compared with a similar cohort of swimmers outside the system (Shaw *et al.*, 2016). Therefore, this element may contribute to an overall reduction in risk.

Research

Research activities provided a controlled environment in which athletes and coaches were able to measure the benefits associated with supplement use. Research and case history activities contributed to better protocols for use of supplements, including strategies that were personalised and specific to the characteristics of a key competition and individual athlete.

Governance

Activities that promoted transparency and accountability evolved over the course of the Program, in advance of reporting requirements of system. This proved valuable in light of the 2013 report “*Organised Crime and Drugs in Sport*” (Australian Crime Commission, 2013) which identified problematic use of banned substances in sport under guise of “Supplement Programs”. The need for oversight into supplement use in sport was made clear by this report, leading to roles for Sport Integrity Australia and Sport Australia in setting governance requirements for Australian sporting organisations and agencies.

2013–2020 EVOLUTION OF THE AIS SPORTS SUPPLEMENT FRAMEWORK

Restructuring of the Australian High-Performance Sports System following the 2012 Olympic Games changed the role, responsibilities and resources of its various sectors and organisations. In brief, gradual devolution of the AIS removed its direct responsibility and involvement in the daily preparation of athletes. Meanwhile, it assumed a new leadership role, in conjunction with the state academies and institutes of sport (forming the National Institute (of sport) Network or NIN), to develop technical expertise and resources in the Australian High-Performance sports system. Such changes facilitated the evolution of the AIS Sports Supplement Program from an operational activity to a framework available to National Sporting Organisations (NSOs) and other organisations to promote the development of bespoke Sports Supplement policies or programs; protocols that addressed their specific needs and resources, while complying with the National Integrity Framework.

While evolution of the classification system and education resources continued during 2013-2018 under the previous management structure within AIS Sports Science Sports Medicine, a further restructure of the AIS in 2018 removed the key resources and personnel involved in these activities. A review of key stakeholders (NSOs, NIN, Peak bodies for SSSM professionals, Sport Integrity Australia) identified the value of the AIS Sports Supplement Framework, with opportunities for an ongoing and expanded role involving greater engagement from these stakeholders.

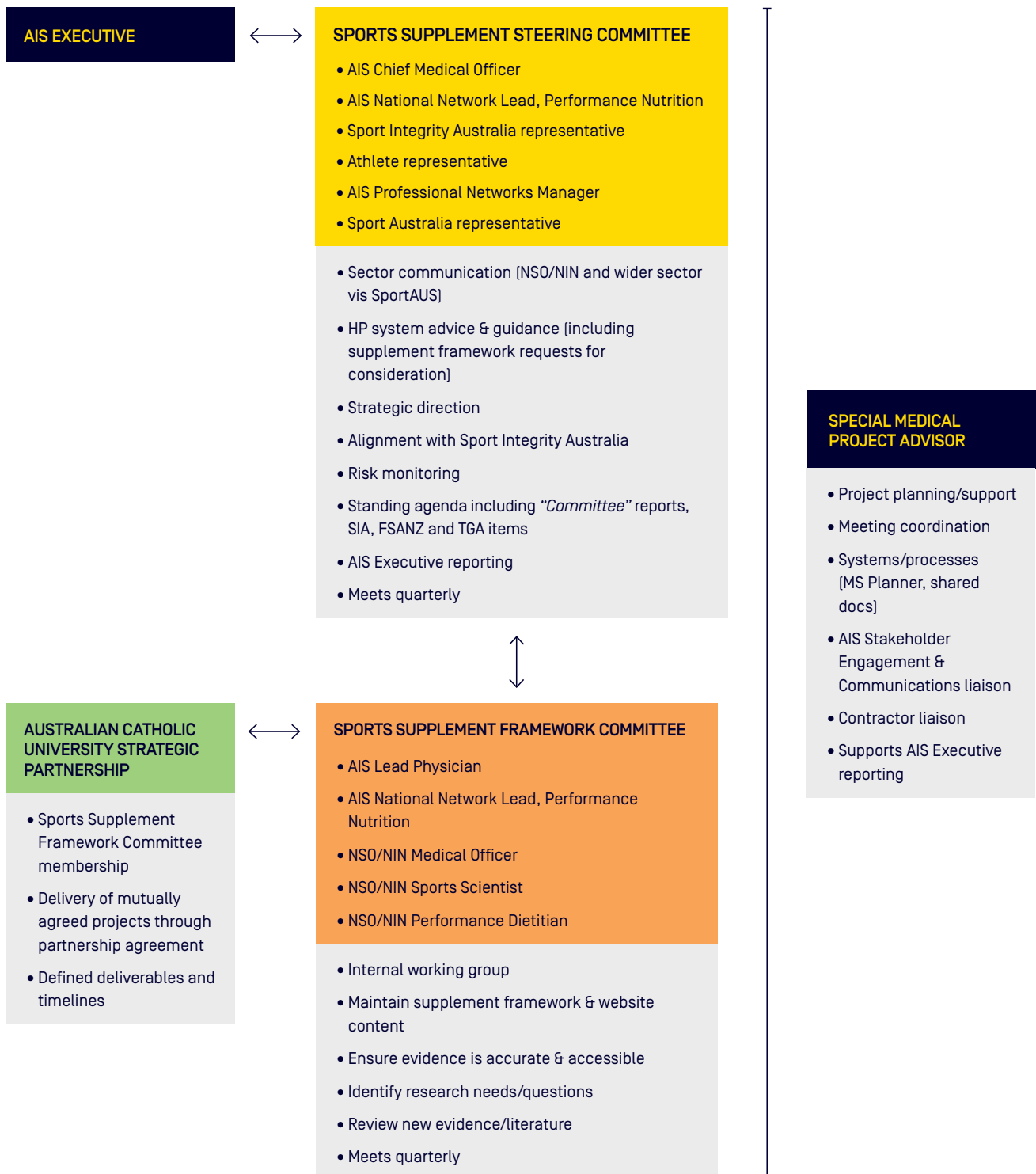
2021 OPERATIONAL AND RESOURCE UPDATE

A revitalisation of the AIS Sports Supplement Framework, launched in March 2021, included a new management structure and greater engagement with stakeholders in the Australian HP Sports network. The figure on the following page summarises the governance overview, which includes a Steering Committee to set the strategic direction and communicate with regulatory partners and the sporting sector, and a Framework Committee involving membership of internal (AIS) and external experts which manages the Framework categorisation and education resources. Regular updates and reporting schedules promote transparency, currency and capacity to address new projects that will further enhance best practice around the use of supplements and sports foods by athletes.

The renewed commitment and goal of the AIS Sports Supplement Framework is to promote continuous improvement of knowledge and practice around the use of supplements and sports foods in Australia’s High Performance (HP) sports system. In collaboration with NSOs and other key stakeholders, it provides guidelines, resources and a forum to identify key projects that will enable NSOs to implement bespoke Sports Supplement Policies, Programs and Guidelines that address their own needs and resources, while achieving compliance to operational and regulatory requirements. Key education resources – the ABCD classification system and Fact sheets targeting SSSM professionals – are made accessible via the AIS Sports Supplement Framework website (www.ais.gov.au/nutrition/supplements) to promote supplement literacy in the general sporting community as well as to promote transparency around supplement practices. The current summary of the ABCD Classifications and education resources that outline key recommendations around the use of supplements and sports foods in the Australian HP sports system are provided on the supplements page of the AIS website.

Future projects will include engagement with Australia’s regulatory bodies around supplements and sports foods, and activities to reduce risks around anti-doping rule violations such as promoting better access to evidence-based products that are batch-tested. Although there will continue to be challenges to the safe and effective use of supplements and sports foods within Australia’s HP sports system, collaboration by all stakeholders within the network around the Framework will continue to work towards pragmatic solutions that optimise performance, promote athlete health and maintain fairness.

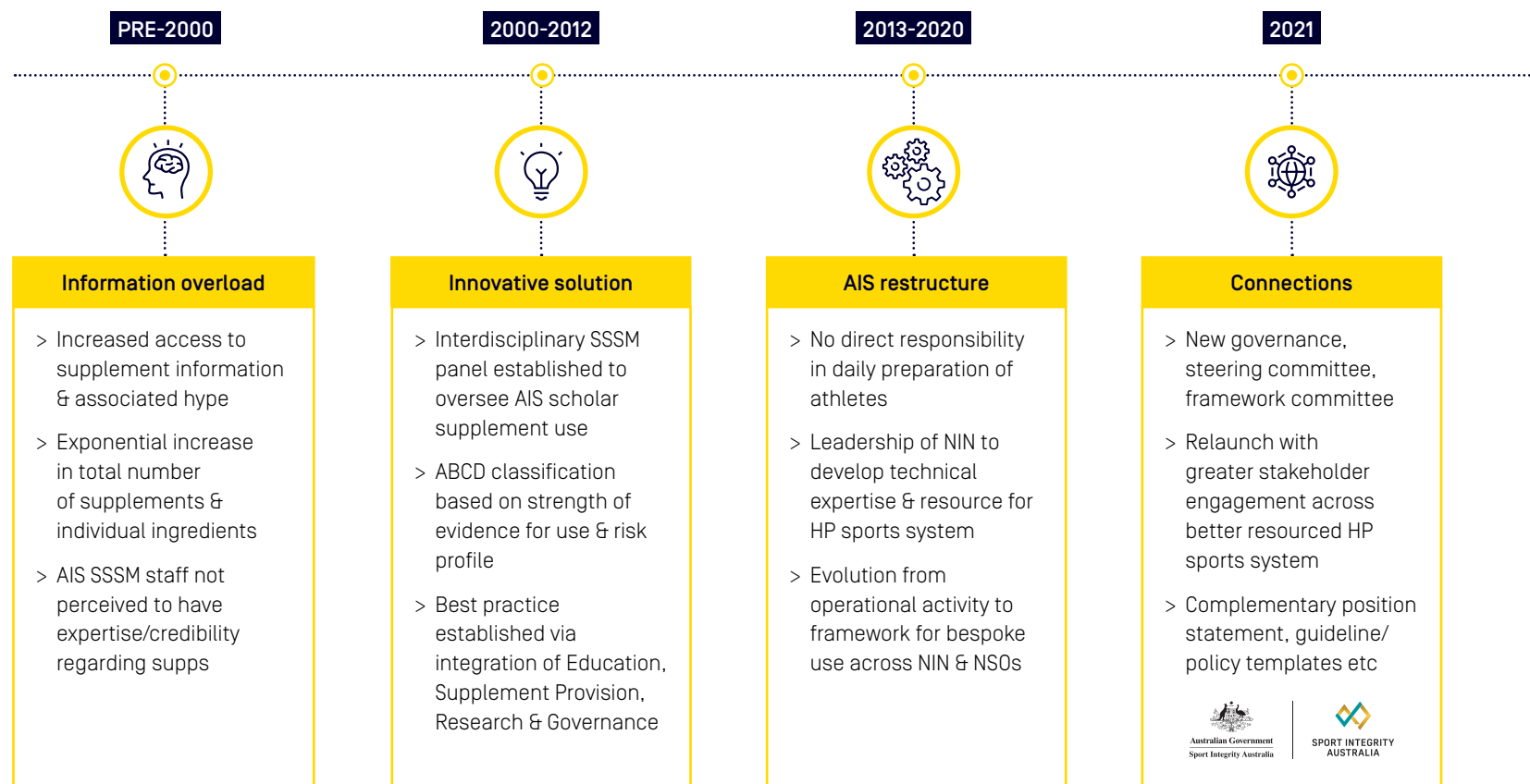
AIS SUPPLEMENT GOVERNANCE OVERVIEW



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APPENDIX 1: EVOLUTION OF AIS SUPPLEMENT PROGRAM





[AIS.gov.au](https://ais.gov.au)



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