

COMMENTARY

When enhanced games outpace public health and ethics

Ilaria Palmi, Simona Pichini and Renata Solimini

Centro Nazionale Dipendenze e Doping, Istituto Superiore di Sanità, Rome, Italy

Abstract

The enhanced games, a new sports event scheduled to take place in the United States in the spring of 2026, propose a competition model in which the use of performance-enhancing drugs (PEDs) is openly permitted and encouraged. This initiative represents a radical departure from long-established sporting norms and is strongly criticised by major international institutions, due to its potential public health consequences and ethical implications. PEDs use poses significant risks, ranging from severe physical damage to long-term mental health effects. The enhanced games risk normalising these substances, particularly among vulnerable populations such as youth, who are highly influenced by elite athletes and media narratives. This commentary examines the conceptual frameworks underpinning sport, performance enhancement, and doping as well as the main issues that may arise in relation to these games. Particular emphasis is placed on the possible implications for public health, from both an ethical and a health perspective.

Key words

- doping in sports
- physical enhancement
- public health
- ethics

INTRODUCTION

The enhanced games is a proposed multi-sport event that would allow athletes to use performance-enhancing drugs (PEDs). The inaugural enhanced games were announced in May 2025 and the event is scheduled to take place in Las Vegas, USA, from 21-24 May 2026. The event will feature swimming, athletics, and weightlifting. The enhanced games aim to transcend the restrictions present in traditional competitions, such as the Olympics, by eliminating bans on PEDs and encouraging the use of biotechnology and pharmacology to push human performance beyond natural limits. The event offers substantial prize money for competition winners, particularly for those who can surpass current world records. Organizers state that a team of scientists and medical specialists rigorously designs the medical profiling protocols, taking into account the potential use of performance enhancements (<https://www.enhanced.com/science>).

This event represents a significant departure from traditional sports norms and has drawn considerable criticism from major international institutions like the World Anti-Doping Agency (WADA) (<https://www.wada-ama.org/en/news/wada-condemns-enhanced-games-dangerous-and-irresponsible>). Enhanced games have also raised deep concern in the International Federation of Sports Medicine (FIMS) that adamantly opposed to them [1]. This commentary outlines some ethical and

public health issues arising from the development and marketing of these games.

SPORT, PEDS AND DOPING

Sport is one of the most remarkable expressions of human endeavour. It serves as a source of recreation and enjoyment, but rules are in place to ensure fairness and equal opportunity for everyone. Sport enables individuals to push the boundaries of their physical and mental capacities while fostering the sharing of collective values and experiences. Sport originated as an individual pleasure derived from physical activity and competition is a natural consequence of this, a way to measure oneself against others.

Can enhanced games be of interest to elite athletes and, at the same time, amateur or recreational athletes, i.e., be a topic of interest for the protection of public health? Athletes are commonly classified into categories such as elite, amateur, and recreational, based on various criteria including competitive level, degree of commitment, purpose, legal status, and access to resources. Yet, those who compete at the highest international levels – such as the Olympics, World Championships, or professional circuits – almost always begin their athletic journey as amateurs, often starting at a young age. From this perspective, elite sport is not viewed as a separate domain, but as an endpoint that begins in the context of amateur sport. Accordingly, certain public health

ethics principles – such as the protection of vulnerable populations like youth – can be reasonably extended to the domain of sport.

Doping, defined as the use of specific substances or medical methods to artificially increase an athlete's physical performance, affects sports participants at all levels (i.e., elite, amateur and recreational athletes). It ranges from neighbourhood gym-goers exchanging tips on “sculpting” muscles to young exercisers achieving desired results faster, by pushing themselves to their physical limits and recovering faster after exercise/training [2, 3]. The use of PEDs is becoming increasingly prevalent among amateur athletes and the general population engaging in sports, as well as those simply attending gyms and sports facilities [4].

A number of authors have explored the motivations behind athletes' decisions to resort to doping. They have concluded that the problem is extremely complex and multifaceted, arising from a combination of individual, relational, social and situational factors [5, 6]. The integrated model of doping behavior explains that regulative, normative, and cognitive systems shape an athlete's choices about performance enhancement, including both legal and prohibited methods. Together, these systems influence the athlete's mindset – their attitudes, values, beliefs, and behaviors toward doping, essentially their orientation to cheating. The extended model considers both system-level and individual perspectives, aiming to align anti-doping policies, education, and personal behavior [7].

At an international level, the World Anti-Doping Agency (WADA), the international independent agency that leads a collaborative worldwide movement for doping-free sport, currently defines which drugs or practices violate the World Anti-Doping Code (WADC). The WADC is the fundamental document that harmonises antidoping policies, rules and regulations within sports organisations and among public authorities worldwide. WADA states that there is an intrinsic value about sports that is the celebration of the human spirit, body and mind, and is reflected in values including fair play and honesty, respect for self and other participants, respect for rules and laws, and health.

WADA considers including a substance or method on the prohibited list if the substance or method meets any two of the following three criteria: it has the potential to enhance athletic performance; it poses an actual or potential risk to the athlete's health; or its use is deemed to violate the spirit of sport as defined by the WADC [8].

PEDs are banned because they violate these criteria. In particular, the health risks to athletes are a matter of public health. Depending on the substance, the dosage and the duration of use, some PEDs have been proven to have severe side effects and can cause irreversible damage to an athlete's body, including mental health issues [9]. Indeed, most PEDs are drugs developed with the aim to treat specific diseases, and the off-label use in healthy subjects can induce short- and long-term damages. For example, erythropoietin (Epo) employed to treat anaemia resulting from chronic kidney disease or in chemotherapy induced anaemia. The intake of Epo in healthy subjects leads to “thick blood” and the

danger of thromboses, with the additional risk of heart attack [10]. Another example is that of anabolic-androgenic steroids (AAS). In recent decades, there has been an increasing interest in the long-term effects of AAS abuse, due to accumulating evidence of their adverse effect on physical [11-14] and mental health [15-17]. As described above, doping affects both elite and amateur (or recreational) athletes. The latter are arguably the most exposed to the health risks associated with the use of PEDs, as they do not have access to teams of experts (doctors, athletic trainers, physiotherapists, etc.) and often resort to Do It Yourself (DIY) methods or rely on hearsay. In line with public health principles, governments have a duty to educate people about the health risks of PED use. Combating doping is a public health priority, tied to promoting sport and physical activity to improve population well-being.

In 2014, the European Union (EU) Commission reviewed the evidence on policies to address doping in recreational sports, due to concerns about its use among amateur athletes [18]. Along with legislative measures and controls, this review concluded that doping prevention in recreational sports relies primarily on education and information. In EU, several countries have implemented bans on doping. For example, some European countries (e.g., Austria, France, Italy, Sweden, Germany) introduced national legislation that punishes the use of a substance included in WADA prohibited list, while many more countries have also enacted sports-specific legislation that punishes the possession, the supply or distribution and the administration or prescription of WADC prohibited substances (e.g., Finland) (<https://www.coe.int/en/web/sport/adq-reports>).

ENHANCED GAMES AND PHYSICIANS

In the field of public health, healthcare professionals have a fundamental role to play in terms of their professional responsibilities, such as acting with competence, honesty and integrity, and complying with regulations. They also play a key role in health promotion, educating and raising awareness among the population about the importance of health and healthy behaviours. One of the key challenges in diagnosing and treating doping-related conditions is the clandestine and illegal nature of substance use, which can result in severe disciplinary consequences for athletes. Consequently, individuals rarely voluntarily disclose such use, even when experiencing adverse effects that prompt them to seek medical attention from an endocrinologist or another specialist. Physicians should be highly vigilant towards patients engaged in intense physical training, regardless of whether they are amateurs or professionals. Given this population elevated risk profile, the possibility of doping-related complications should always be considered as part of the differential diagnosis, regardless of the initial reason for consultation [19].

The health risk is arguably the most significant concern in the context of enhanced games, as it conflicts with a cornerstone of medical ethics: the principle of *primum non nocere* (i.e., first, do no harm). Since no drug is entirely free of risk, physicians must, above all, avoid causing harm when selecting a therapy. Accordingly, in

treating any illness, they should prioritize interventions associated with the fewest adverse effects, based on a careful assessment of the risk-benefit ratio. This principle applies to the treatment of sick patients. However, PEDs are not used to cure illness; rather, they are drugs taken by otherwise healthy individuals with the sole aim of improving athletic performance. This creates an ethical paradox for physicians who agree to assist athletes in doping. In this context, the position of FIMS is unequivocal: the medical care of athletes must be grounded in three core principles, i.e., scientific analysis, assessment of the individual physical condition, and the protection of health (www.fims.org/about/code-ethics/).

ENHANCED GAMES AND THEIR IMPACT ON YOUTH

It is important to note that encouraging elite athletes to publicly endorse the use of prohibited and potentially harmful substances sends a dangerous message, particularly to young people. This message suggests that success in sport is not achieved through hard work and dedication, but rather through pharmacological shortcuts. This narrative poses serious ethical concerns. Sports physicians are especially alarmed by the health risks associated with drug use among young, aspiring athletes: they are particularly concerned that young people will be exploited in the quest for fame and fortune, and by the allure of the enhanced games [1].

Elite athletes can exert a powerful influence on adolescents' purchasing decisions, lifestyle choices, and overall engagement in sport. Teenagers who regard athletes as role models are more likely to emulate their behaviours, including mimicking consumption patterns and expressing greater interest in sport-related activities. This influence is amplified by adolescents' sensitivity to trends and their active engagement with media and advertising featuring sports celebrities [20].

The motivational climate shaped by elite athletes, coaches, and peers plays a central role in determining adolescents' motivation, self-esteem, and enjoyment in sport. Coaches and peers are particularly influential in adolescence, affecting effort, enjoyment, and perceived competence, while parental influence diminishes with age [21]. The broader social environment – including the attitudes and behaviours of elite athletes – can thus contribute to the development of either adaptive or maladaptive motivational patterns among youth [21, 22].

DISCUSSION AND CONCLUSIONS

Physical activity and exercise participation are associated with a wide range of benefits to mental and physical health. Nonetheless, the health-enhancing properties of physical activity and exercise can be offset by certain behaviours, such as the use of PEDs. Whereas the use of PEDs is highly regulated by sports authorities governing competitive sports and has been considered as a cheating behaviour and a danger for health, the enhanced games appear to challenge and overturn long-established norms and ethical standards traditionally associated with sporting conduct. The issue of athletic enhancement, whether pharmacological or technologi-

cal, raises complex and open questions that cannot always be answered unequivocally, even by experts. For instance, who should be held responsible for the use of PEDs? Should the athlete be held solely responsible, or should coaches, doctors, federations, sponsors and the sports system itself also be held responsible? In many cases, doping is structural in nature, meaning it is encouraged by a system that prioritises victory over ethical limits [6]. A modern whole rounded approach needs to consider doping not only as a violation of sporting rules, but also as a threat to one's own health. It is somehow a form of addiction that affects individuals and communities and is supported by crime. In this context, doping is not only considered a sporting violation or a risk factor for an individual's health, but also a disease of society, affecting society and acting against it [23].

Initially planned for Australia in 2024, following Paris 2024 Olympics, enhanced games have now been scheduled to take place in May 2026 in USA. Reactions from the sporting world have been extremely negative, highlighting the dangers of encouraging PEDs. However, unless the event is cancelled in the coming weeks, it is set to take place. On their website, the organisers state: "We are on a mission to redefine super humanity through science, innovation and sports" effectively opening the door to transhumanism and raising ethical, social and philosophical questions about what it means to be human. Should we see the body as a limit to be overcome, or as a boundary to be respected? This is the first time that sporting competitions have been proposed, promoted and implemented in which the use of doping is openly accepted and, indeed, it is actively encouraged. The potential impact on civil society and the world of sport is unknown.

It is known that a model for health promotion focuses attention on both individual and social environmental factors as targets for health promotion interventions. This model assumes that appropriate changes in the social environment will produce changes in individuals, and that the support of individuals in the population is essential for implementing environmental changes [24]. Conversely, it is highly likely that inappropriate changes in the social environment can produce inappropriate changes in individuals. What impact do enhanced games have on social perceptions of the body and health? Can they exert cultural pressure on young people and amateur athletes, thereby influencing risky behaviour or drug use? It is well known, for example, that AAS are associated with addiction [25]. However, it is doping itself that can induce phenomena similar to addiction in those who practise it. Indeed, the positive effects of a victory and the negative effects of a failure make the practice of doping almost like a drug itself [6]. In light of the promotion and spread of enhanced games, what effective awareness-raising measures could health professionals implement?

As described above, the WADA exercises preventive control and imposes disciplinary sanctions on athletes who violate the provisions of the WADC but regarding enhanced games, should states intervene to counteract the idea that the use of PEDs is socially acceptable for improving sporting performance or body image?

Enhanced games raise several unresolved questions related to the protection of public health in general, and athlete health in particular. What should health promotion professionals do in light of the advertisement of an event like this? It is essential that medical professionals, psychologists and healthcare workers in the broader sense, as well as institutions at various levels, consider the potential social and health risks associated with the practice of enhanced games, with the aim of understanding its impact on population and implementing appropriate countermeasures.

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Authors' contributions

IP conceived and wrote the manuscript with support from RS. RS and SP carefully revised the final draft of the manuscript. All Authors have read and approved the last version of the manuscript.

Conflict of interest statement

The Authors declare no conflict of interest.

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