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Bigger than sport: the enhanced games and the commodification of telehealth, testosterone, and dependency

Luke Cox^{1*} and Imran Khan¹

Abstract

Background Much of the existing discourse surrounding the Enhanced Games has focused on its potential to undermine traditional sporting values by permitting and promoting the use of performance-enhancing drugs (PEDs), thereby challenging established anti-doping frameworks. However, as the Enhanced Games continues to expand its brand, a broader agenda has emerged, specifically, the incorporation of telehealth services into its platform.

Aim This study aims to critically examine the Enhanced Games' role in facilitating access to testosterone replacement therapy (TRT) through its emerging telehealth services.

Method A qualitative content analysis was conducted of the Enhanced Games' official website, with a specific focus on its telehealth offerings. Drawing on Cooper and Waldby's (2014) concept of the *bioeconomy*, in which human bodies become sites for pharmaceutical accumulation and capital generation, we examine how the Enhanced Game's seek to exploit this notion.

Results Findings indicate that the Enhanced Games leverages sport as a vehicle to market TRT. This underscores its ambitions to extend beyond the sporting arena, positioning the organisation as a commercial actor within the broader biomedical, wellness, and longevity sector. Their telehealth advertisements explicitly promote testosterone products, signalling a shift and blurring boundaries between sport (performance enhancement) and society (longevity, wellness, optimisation).

Discussion In light of the over-prescription of testosterone through telehealth services, the Enhanced Games may serve as a powerful force towards expanding that market. These developments raise important concerns, particularly regarding the risk of physiological dependency resulting from prolonged use of exogenous testosterone. The commodification of TRT under the guise of sport and health optimisation calls for critical reflection on the ethical, medical, and regulatory implications of such practices.

Keywords Anabolic androgenic steroids, Testosterone replacement therapy, Telehealth, Autonomy, Dependency

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Introduction

Background

The Enhanced Games (EG), a proposed sporting event that permits, and even encourages, the use of performance-enhancing drugs (PEDs), constitute not only an ideological challenge to established anti-doping frameworks [88] but also a material opportunity to construct and expand commercial markets for substances such as synthetic testosterone [29, 31]. While its founders frame the Games as a libertarian project grounded in bodily autonomy and scientific progress [21, 22], they simultaneously operate within a broader political economy that commodifies human enhancement [47, 72], and taps into gendered vulnerabilities. In particular, men are increasingly subjected to societal pressures and expectations surrounding physical performance and appearance [41, 70, 79, 81], something the EG seeks to leverage.

Testosterone, central to cultural narratives of masculinity, strength, competitiveness, and virility, is a highly marketable substance [3, 13, 26]. By removing the regulatory and ethical constraints typically imposed by anti-doping policies (see WADA, [109]), the EG may function as a legitimising force for the use of exogenous testosterone. This carries the potential to normalise its consumption not only among elite athletes [105] but also within wider male fitness and lifestyle cultures, which are already heavily invested in optimisation, longevity, and muscularity [65]. In doing so, the EG contribute to the *cultural valorisation* of testosterone as a means of attaining idealised masculine norms.

However, this valorisation obscures the significant biomedical consequences of synthetic testosterone use, in absence of a legitimate medical condition, such as hypogonadism. One of the most well-documented effects of exogenous testosterone is the suppression of the hypothalamic–pituitary–gonadal (HPG) axis, resulting in the downregulation or even cessation of endogenous testosterone production [53, 98]. Such biological suppression often necessitates continued use to sustain hormonal function, muscle mass, and psychological well-being, effectively binding individuals into a cycle of dependence, with some people resorting to forms of ‘self-medication’ [108]. The creation of this market is therefore not simply about facilitating choice [21, 22] but about generating *biological dependency* for profit. From this perspective, where dependency becomes a lived reality for many, the rhetoric of choice and bodily autonomy is fundamentally undermined¹.

This phenomenon corresponds with what Cooper and Waldby [16] describe as the *bioeconomy*, in which bodies

function as sites of accumulation and exploitation. The EG can thus be understood as operating within this economy, generating value not only through spectacle but also through the pharmaceutical consumption it stimulates. Furthermore, the medicalisation of testosterone use, evident in the growing proliferation of “testosterone replacement therapy” (TRT) clinics, particularly in the United States [3, 4, 74], increasingly blurs the boundaries between clinical treatment and enhancement [59], thereby further entrenching the normalisation of synthetic hormone use.

On this basis, the EG are constructing more than a novel sporting model; they are actively contributing to the development and legitimisation of a lucrative biomedical market for testosterone. Though the EG are also a driving force behind a model of medical supervision, underpinned by scientific research, and which seeks to tackle the problematic nature of unregulated and unsupervised testosterone use, increasing community knowledge through the provision of educational resources and open conversations [29], concerns remain. Importantly, by centring on testosterone, the EG risk capitalising on and amplifying male insecurities, reinforcing gendered ideals, and fostering forms of dependency that are simultaneously physiological and ideological. This trajectory raises significant questions about the ethical, health, and social consequences of creating a system in which athletic success² and masculine identity become increasingly bound to the pharmaceutical regulation of the body.

Underpinning theory

Cooper and Waldby’s [16] contribution to the sociology of biomedicine and political economy lies in their theorisation of the bioeconomy as a system in which biological materials and human bodies are transformed into sources of economic value. Building on earlier scholarship on biocapital [44, 85, 89], they emphasise the commodification of human biological processes, particularly those related to reproduction, regeneration, and enhancement [95]. This framework is highly relevant to the case of testosterone [7, 36], which the EG appear to both cultivate and capitalise upon.

At the centre of their analysis is the concept of *clinical labour*, a form of work often excluded from traditional definitions of labour yet fundamental to the functioning of the bioeconomy [73]. This category encompasses practices such as egg and sperm donation, surrogacy, clinical trial participation, and tissue provision: embodied

¹Conversely, for males with a legitimate clinical need, such as those diagnosed with hypogonadism, exogenous testosterone can provide a range of health benefits.

²For decades, athletic success has been closely linked to the pharmaceutical management of the body. In many cases, such medical supervision can be beneficial, as elite sport is often associated with detrimental health consequences, including musculoskeletal injuries, burnout, endocrine dysfunction, and renal complications, that can be mitigated through appropriate clinical oversight.

activities through which value is extracted for biotechnological, pharmaceutical, and medical industries [16]. The bioeconomy, they argue, reflects a post-Fordist mode of accumulation in which value is derived not primarily from manufacturing but from biological vitality, what they term the “productive body” [16]. This shift entails generating value from life’s potential, encompassing reproduction, tissue generation, and the speculative promises of future health, performance, and longevity, as exemplified in regenerative medicine, genomics, and enhancement technologies.

Cooper and Waldby’s [16] framework is particularly valuable for analysing TRT, anti-ageing interventions, and personalised medicine, contexts in which individuals operate simultaneously as consumers and producers of value. Within these domains, bodies are modified, monitored, and aligned with emerging biomedical norms. This bioeconomic logic extends beyond health alone, centring on the commercialisation of biological time and the transformation of life processes into economic assets. We draw upon this perspective to explore and critically examine the EG and their extension beyond the sporting arena into the testosterone market, through the promotion and provision of TRT.

The enhanced games

In mid-2023, Araon D’Souza, president of the EG, publicly announced his intention to establish the event as an alternative to the Olympics, one in which athletes are permitted, and even encouraged, to use PEDs [100]. The proposal generated significant public and media attention, further amplified by provocative endorsements. For example, former elite swimmer James Magnussen declared that he would “*juice to the gills* [use PEDs]” in order to compete in the EG for a chance at the prize money [101].

Since the initial public statement of intent in 2023, the EG have made significant advancements, partly driven by a “multi-million-dollar investment” from 1789 Capital, the fund managed by Donald Trump Jr. [29, 31]. Subsequent developments include the definition of specific event categories: Swimming (50 m and 100 m Freestyle, 50 m and 100 m Butterfly), Track & Field (100 m Sprint, 100 m/110 m Hurdles); and Weightlifting (Snatch, Clean & Jerk) and a series of announcements that reveal several high-profile athletes have signed up to compete in the EG [31]. In addition, comprehensive medical screening protocols are being developed, with the EG stating that it will be ‘mandatory’ for all competing athletes to undergo “pre-competition full-system medical profiling. This will include ECG, ECHO, MRI, cardiac MRI, ultrasounds, and regular blood tests (pre-, during, and post-event) to monitor cardiac risks and other key health markers” [29, 31]. These advanced health monitoring systems have

been developed by medical experts, including cardiologists, neurologists and endocrinologists, as well as performance scientists, underscoring a serious commitment to athlete health and safety [29] - which are far more advanced than any existing model and further underscore a serious and robust concern for competing athletes. Most recently, on 21 May, the EG team coached Kristian Gkolomeev to break the 50 m swimming freestyle *world record* and announced that their inaugural Games are scheduled to be held in May 2026 in Las Vegas.

Since the announcement of such events, institutional responses to the EG have been strongly critical. World Athletics president Sebastian Coe described the idea as “moronic” [5], former U.S. President Joe Biden expressed “deep concern” [35], and the World Anti-Doping Agency [110], National Anti-Doping Organizations (e.g., UKAD, USADA, SIA), [97, 106, 107] and the Council of Europe [14] have raised serious ethical, health, and integrity concerns. To date, most attention has focused on the EG as a threat to sporting integrity, however, we identify a broader and potentially more pressing concern, with the objectives of the EG extending beyond sport, with athletic competition primarily serving as a vehicle to promote, market and commercialise testosterone products through the EG’s ‘telehealth’ platform. Despite such concerns, there is currently no research on this notion. Therefore, this paper seeks to investigate and make sense of such concerns.

Testosterone replacement therapy

TRT involves the medical administration of exogenous testosterone to treat male hypogonadism, a condition characterised by the body’s inability to produce sufficient levels of testosterone [1]. Hypogonadism can be classified as either primary (testicular failure) or secondary (hypothalamic or pituitary dysfunction), with testosterone deficiency manifesting in symptoms such as reduced libido, fatigue, decreased muscle mass, depression, and impaired cognitive functioning [1, 8, 28].

TRT aims to restore testosterone levels to a physiological range and alleviate associated symptoms, serving a strictly therapeutic function. It can be administered through various modalities, including intramuscular injections, transdermal patches or gels, subcutaneous pellets, and oral formulations [96]. The decision to initiate TRT is typically based on both clinical symptoms and biochemical confirmation of low serum testosterone levels (i.e., blood tests) [8, 9, 90, 103], with *normal* ranges generally defined as 8–29 nmol/L. However, significant inter-individual variability exists, and optimal levels may differ from person to person.

While TRT is increasingly marketed as a remedy for the so-called “andropause” or “male menopause,” its use remains controversial [67, 111, 112]. Critics contend

that the medicalisation of ageing and normal physiological decline has contributed to overdiagnosis and over-treatment [3, 15, 68]. Dunn et al. [26] further argue that society is experiencing a phase of “pharmaceuticalisation,” in which reliance on pharmaceuticals to treat and prevent illness, including testosterone and testosterone deficiency, is intensifying. Additionally, TRT has become entangled with broader cultural ideals of masculinity, youthfulness, and vitality, facilitating its off-label use for performance enhancement rather than strictly therapeutic purposes [26, 108].

Recent literature also highlights the role of direct-to-consumer advertising, telemedicine platforms, and social media influencers in promoting TRT, often blurring the boundaries between clinical treatment and lifestyle enhancement [75, 108]. Of particular interest are telehealth and telemedicine services, which encompass healthcare delivered through technology using devices such as phones, laptops, tablets, and desktops, facilitating audio and video communication between patients and clinicians [37]. Initially developed to provide healthcare access to rural and underserved populations, the use of telehealth expanded significantly in 2019 during the coronavirus disease pandemic [115]. Notably, one area of telehealth that has experienced particularly rapid growth is its application to TRT [25]. Despite the expansion of telehealth services and its extension into the TRT market, in the UK, research, albeit limited, indicates that 84% of TRT is self-medicated [108], and unsupervised, exposing consumers to a range of risks associated with unregulated and underground drugs [76].

Potential risks associated with TRT include polycythemia, cardiovascular complications, reduced fertility, and suppression of the hypothalamic–pituitary–gonadal (HPG) axis, which can result in the shutdown of endogenous testosterone production and testicular atrophy [1, 17, 40, 42, 86]. These physiological effects raise concerns about dependency, particularly among men using TRT for non-medical purposes, such as body image or performance enhancement. However, Hudson et al. [49] have recently challenged the evidence linking TRT to adverse cardiovascular events, highlighting conflicting data and methodological inconsistencies. Nonetheless, these developments exemplify a growing bioeconomy [16], in which hormonal modulation functions simultaneously as a medical intervention and a marketable commodity. This is the market that the EG appear poised to break into and capitalise upon. With research estimating the TRT market at \$2 billion in 2024 and projecting growth to \$2.5 billion by 2030 [83], it is evident why the EG are motivated to capture a share of this rapidly expanding industry.

Creating and capitalising on dependency

Dependency, in the context of substance use and health, refers to a condition in which an individual develops a physiological or psychological reliance on a substance in order to function “normally” or to avoid withdrawal symptoms [113, 114].

Biologically, dependency is often associated with the body’s adaptation to the presence of a substance, whereby regular use alters neurochemical pathways, particularly those involved in reward, motivation, and stress regulation. In such cases, cessation can trigger withdrawal symptoms, which may reinforce continued use; this phenomenon is typically described as physical dependence, characterised by tolerance and withdrawal [56]. Psychologically, dependency may manifest through compulsive behaviours, craving, and the prioritisation of substance use over other aspects of life, even in the face of adverse consequences. This dimension corresponds to psychological dependence, in which the substance becomes central to an individual’s emotional regulation or self-concept [94].

In the context of testosterone, dependency is more complex than in traditional models of addiction. While anabolic–androgenic steroids (AAS), such as testosterone, do not produce intoxication in the conventional sense, evidence indicates that dependency can develop, particularly in relation to body image, performance goals, and perceived identity maintenance [53, 54]. This is particularly concerning for people who use testosterone for non-medical reasons, such as bodybuilders, who likely have normal levels of testosterone prior to the introduction of these drugs into their bodies. People may experience withdrawal symptoms such as fatigue, depression, or hypogonadism upon cessation, reflecting both physical and psychological components of dependency [50, 87, 99]. Moreover, as AAS disrupt endogenous testosterone production, individuals may become medically dependent on synthetic hormones such as testosterone, particularly with long-term use [84, 91, 98]. This creates a biomedical feedback loop in which discontinuation leads to physiological dysfunction, reinforcing continued use, a pattern that blurs the boundary between therapeutic treatment and dependency [2, 55]. However, for people with clinically low level of testosterone, for example, males with hypogonadism, the notion of dependency is less concerning, as a pre-existing medical condition is evident and requires pharmaceutical intervention (e.g., TRT) to return and restore some form of normalcy. Dependency, thus, in this context, emerges as a critical and underexamined dimension of the EG model, particularly as telehealth platforms expand access to AAS, most notably testosterone.

Notably, while the increasing uptake of TRT raises ethical and medical concerns, it may provide a degree of

oversight and regulation regarding the quality of testosterone. Schartau [92] estimates that approximately one million individuals in the UK currently use PEDs, particularly AAS, while Pope et al. [82] suggest that in the USA between 2.9 and 4 million individuals have used AAS. The unregulated nature of many of these practices is concerning, as a substantial proportion of people self-administer and obtain substances through illicit channels of uncertain origin and questionable quality [66, 76, 80]. The absence of standardisation, dosage control, and medical supervision increases the risk of adverse health outcomes. In this context, the formalisation of TRT pathways, although problematic in their own right, may function as a harm-reduction mechanism by introducing quality assurance, regulated supply chains, and clinical oversight into an otherwise unregulated and potentially hazardous domain.

However, growing scrutiny has been directed toward the clinical leniency surrounding TRT prescriptions, particularly in cases lacking clear biomedical indications, a trend observed in both the United Kingdom [38] and the United States [3]. In such instances, the provision of TRT risks extending beyond therapeutic intervention into the realm of elective enhancement. From this perspective, the EG would not merely be responding to an existing medical demand but appear to be actively shaping and commodifying new forms of dependency.

This development raises profound ethical concerns regarding the increasingly porous boundary between treatment and enhancement, as well as the commercial imperatives that incentivise such blurring. More critically, the issue of dependency, especially in light of TRT without a clinical need, challenges the foundational claim made in the Enhanced Games' First Declaration on Human Enhancement [30], specifically Article 1: "*The Right of Bodily Sovereignty*," which asserts that "*individuals have ultimate sovereignty over their bodies*." When pharmacological dependency is established, the very notion of choice, and, by extension, autonomy, is compromised. In this context, the rhetoric of bodily sovereignty becomes increasingly tenuous, exposing the deeper tensions between biotechnological empowerment and structural pharmaceutical reliance.

It is against this backdrop that we examine the EG, its overarching objectives, and its strategic expansion into a market it actively seeks to shape and capitalise upon. Building on the argument that the EG extends beyond the realm of sport, we contend that part of the EG' ambition lies in the promotion of telehealth services, particularly TRT, targeted at the general population³. In this context,

we draw on the concept of the bioeconomy to explore how the EG leverages medicalised narratives of optimisation, longevity, health, and hormonal regulation to legitimise and commercialise pharmaceutical interventions.

Method

This study formed part of a larger project (Cox et al., forthcoming) employing a netnographic approach [57], which adapts ethnographic methods [39] to the study of online platforms and cultures [18, 19, 23, 24]. The study utilised a qualitative content analysis approach [93] to examine how the EG, through its official website, frames and promotes its telehealth services. Content analysis was selected for its capacity to systematically interpret textual, visual, and structural features of media, enabling both manifest and latent meanings to be explored [58]. All data consisted exclusively of publicly available online content and adhered to strict ethical guidelines, approved by the University's ethics committee and underpinned by the British Psychological Society's guidelines for internet-mediated research [45]. The study aimed to interrogate the discursive and ideological functions of health-related messaging within the broader political economy of human enhancement and biomedical marketing.

The primary data source for this research was the official EG website (<https://enhanced.org>), accessed and archived in full between May and July 2025. All subpages, hyperlinks, multimedia content, and embedded elements relating to health services, particularly those referring to "Telehealth," "medical consultations," "treatment plans," and "performance optimisation," were included in the corpus. Examples of such links include Health Warehouse (<https://www.healthwarehouse.com>), Precision Compounding Pharmacy (<https://mycphealth.com>), and Triad RX (<https://www.triadrx.us>), all accessible via the official EG website. The unit of analysis was defined as a single webpage or discrete textual segment (e.g., section headers, paragraphs, image captions) in which claims regarding Telehealth or related biomedical services were made.

This study adopted a two-stage analytic strategy combining both thematic analysis [10, 12] and critical discourse analysis [33, 34]. First, reflexive thematic analysis [11] was employed to identify and organise patterned meanings across the dataset. This inductive stage facilitated the development of themes that captured both semantic and latent dimensions of meaning. Following thematic analysis, we returned to the data to conduct a critical discourse analysis [32] of the material within each theme. The integration of these hybrid approaches enabled a nuanced understanding that not only captured the content of relevant material but also situated it within broader socio-cultural and ideological contexts. The analysis was structured around three interrelated dimensions:

³The Enhanced Games also emphasise research, particularly through the sponsorship of clinical trials and scientific studies aimed at advancing knowledge of testosterone.

1. Framing of Health Services: How are Telehealth services presented (e.g., clinical legitimacy, accessibility, efficacy)?
2. Biomedical Language and Marketing: How are scientific and medical terminologies used to construct trust, authority, and desirability?
3. Risk, Regulation, and Ethics: How are regulatory or ethical considerations referenced, minimised, or omitted?

This framework draws upon the bioeconomy [16] perspective, to examine how the website constructs health as a commercial service linked to enhancement, performance, and identity.

The analysis followed Braun and Clarke's [12] six-phase framework for reflexive thematic analysis. In the first phase, familiarisation with the data, the first author engaged closely with the dataset through repeated, manual readings of the material. This process facilitated immersion in the content and attention to nuance, laying the foundation for the subsequent coding process. In the second phase, initial codes were generated using a hybrid approach. Inductively, codes emerged directly from the data through line-by-line readings, while deductively, the coding was informed by prior theoretical and empirical work in pharmaceutical advertising, and digital health. This dual strategy balanced sensitivity to emergent meanings with alignment to established scholarship. In the third phase, codes were iteratively refined, merged, and organised into higher-order categories through constant comparison across the dataset. Particular attention was given to recurring patterns, contradictions, and context-specific meanings, enabling the identification of potential thematic groupings. In the fourth phase, potential themes were reviewed in relation to both the coded extracts and the dataset as a whole, ensuring internal coherence within themes and distinctiveness across themes. In the fifth phase, themes were defined and named through iterative engagement between data and theory, capturing not only descriptive regularities but also underlying assumptions, discourses, and practices. Finally, in the sixth phase, themes were synthesised into an analytic narrative grounded in empirical material and informed by relevant scholarly debates. This approach provided the basis for reporting findings in a manner that integrates data with theoretical and contextual insights, ultimately leading to the development and presentation of the themes and domain summaries reported in the results.

Researcher positionality was addressed through reflexive dialogue and peer debriefing [61]. Both authors have prior research experience in the domain of human enhancement drug use, which shaped and sensitised interpretations. Additionally, the second author's professional expertise within the TRT and wellness industry,

combined with his lived experience of human enhancement drugs [78], provided valuable positional insight that substantially enriched the analytic process. This dual perspective enabled not only a deeper understanding of the contextual realities, practices, and marketing associated with telehealth services but also facilitated a more nuanced interpretation of the data (e.g., reconsideration of a code or theme in light of lived experience). By drawing on professional and experiential knowledge, the analysis was grounded in an insider-informed perspective, helping to identify meanings, subtleties, and implications that might have been overlooked by researchers without such experience. This approach enhanced the research process, while also highlighting the importance of integrating lived experience into research on marginalised or hard-to-reach populations.

Results

Drawing on Cooper and Waldby's [16] concept of the bioeconomy, the EG' marketing exemplifies the commercialisation and instrumentalisation of the body as a site of value creation. Within this logic, bodies are not treated merely as biological entities but are harnessed for pharmaceutical and biomedical profit (Fig. 1). This is evident in offerings such as becoming an "Enhanced Founding Member" for \$99, which is framed as access to telehealth services "inspired by elite athletic achievement."

By marketing their telehealth services, particularly TRT, as bodily optimisation, performance enhancement, and anti-ageing, the EG tap into and amplify societal trends, strategically blurring the boundaries between therapy and enhancement. In doing so, they seek to attract potential customers while actively contributing to and capitalising on this expanding and lucrative TRT market [83].

The EG incorporate telehealth services into a broader sporting narrative that valorises enhanced human potential. By leveraging elite athletes in their marketing, the EG blur the boundaries between therapy and enhancement, as well as between sport and the general public. Within this framing, the athletic body is reconceptualised not as a natural given but as an improvable asset, one rendered incomplete without pharmaceutical intervention (Fig. 2).

By reframing testosterone as routine self-care and "longevity products," the EG promote the normalisation and continuous consumption of these substances. This approach emphasises an apparent need for pharmaceutical intervention while simultaneously increasing access to and availability of these products. Moreover, by leveraging notions of trust and product quality and employing elite athletes as embodied marketing, the EG further consolidate their status as sector frontrunners, offering a persuasive narrative designed to attract new customers (Fig. 3).

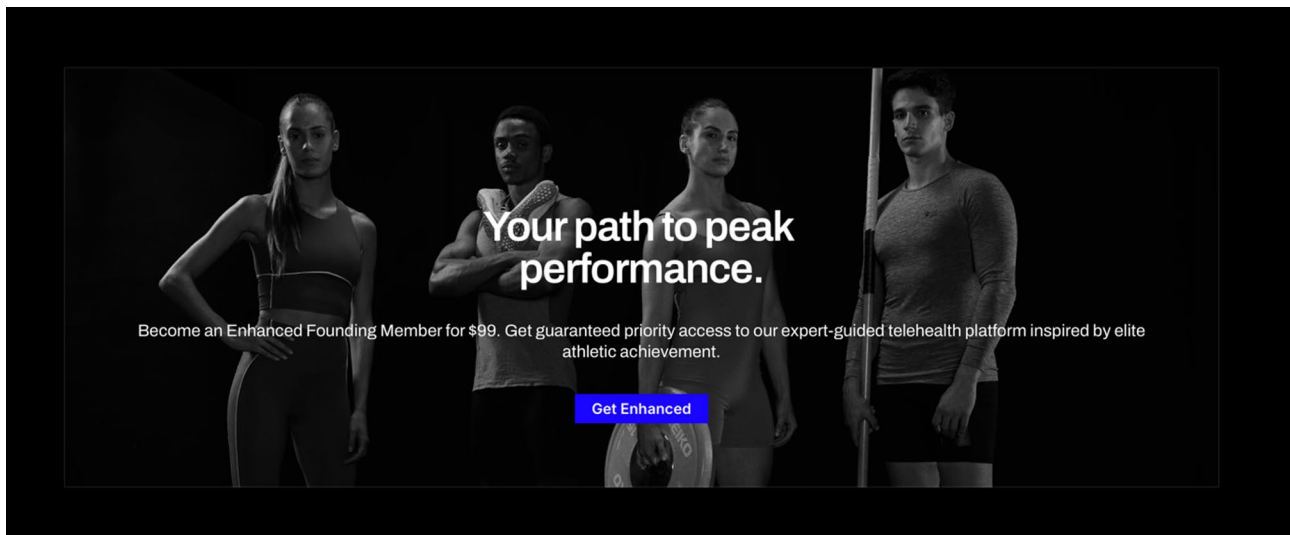


Fig. 1 'Get Enhanced' Homepage on the Enhanced Games website for telehealth platform

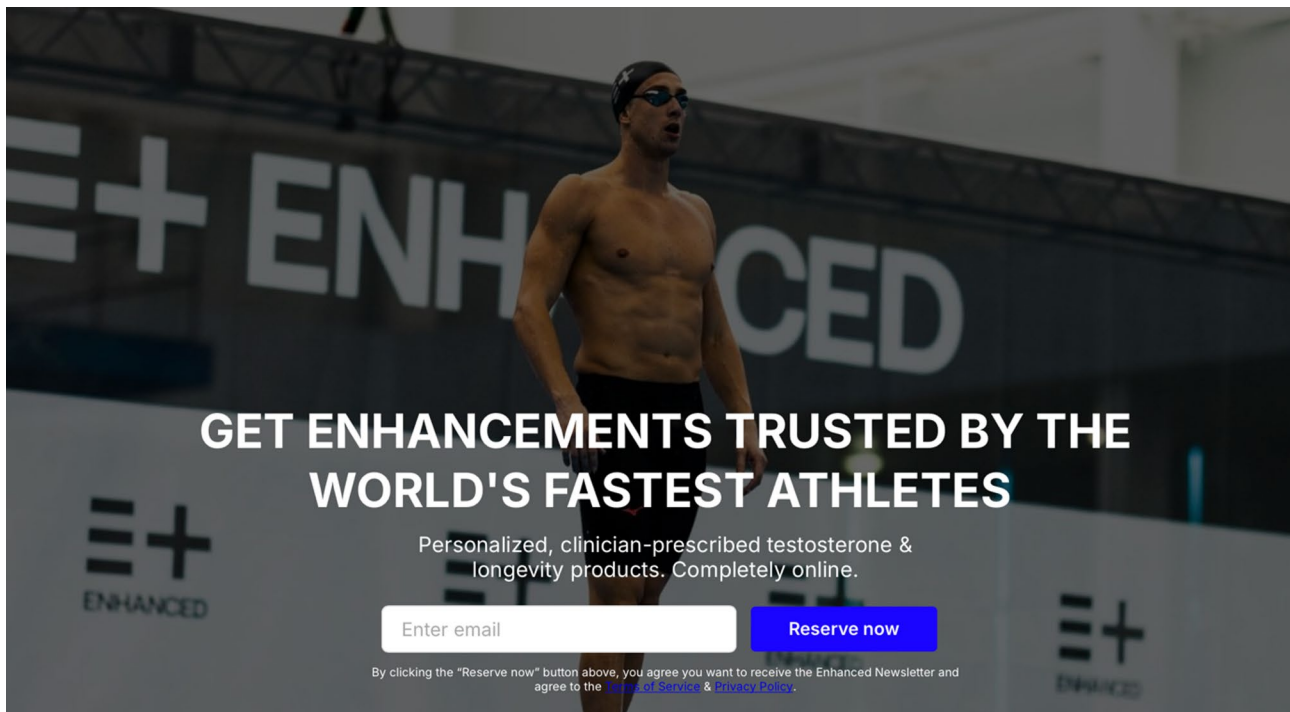






Fig. 2 Advertisement for 'clinician-prescribed testosterone & longevity products' which are 'trusted by the worlds fastest athletes'

By deploying aspirational language such as “longevity,” “peak performance,” and “optimisation,” the EG cultivate consumer desire for enhanced biocapital. This aligns with the logic of the bioeconomy, in which bodily processes are manipulated for profit. Coupled with emotive marketing terms like “secure” and “reserve,” which evoke urgency and fear of missing out (FOMO) [46], the EG exert implicit pressure on potential customers to engage with their brand and participate in the expanding enhancement movement.

This cultural and commercial shift reflects a dominant ethos of continuous optimisation, in which the body is perceived as perpetually incomplete and always in need of improvement. Rooted in neoliberal ideals of self-discipline, autonomy, and personal responsibility, individuals are encouraged to treat their bodies as ongoing projects requiring constant management, attention, and enhancement. Whether through hormone therapy, supplements, fitness regimens, or anti-ageing treatments, optimisation is framed as both a personal obligation and a global

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Complete your health performance assessment

Including a comprehensive blood test, medical history, and lifestyle questionnaire.

Personalized optimization

Get early access to board certified clinicians and prescription products designed to achieve peak testosterone and longevity.

Fig. 3 Marketing strategies to attract new customers to 'secure,' and 'reserve' their access to testosterone

Trusted by the world's fastest athletes

“

At 31, many thought I should be retired, but with elite training, precision recovery protocols, and, legal enhancement, I am now the fastest swimmer in the history of the world.

Kristian Gkolomeev
50m Freestyle World-Record Holder




Fig. 4 The testimonial of enhanced athlete, Kristian Gkolomeev, 50 m Freestyle World-Record holder

opportunity. This framing normalises continual bodily intervention and positions the “natural” body as inferior to the “enhanced.” Within this logic, rest or acceptance of biological limits is marginalised (Fig. 4), while relentless self-improvement is valorised, exemplified by the endorsement of Kristian Gkolomeev, who recently broke a world record [6].

By collapsing the boundaries between health, enhancement, and consumerism, the EG transform the body into a site of market exchange and perpetual optimisation. In this context, the body is not only lived but also commodified, accumulated, and invested in. Health and

enhancement become arenas of market-driven activity, embedded within consumer culture as tools for shaping and adapting one’s existence and identity.

Building on this idea, Cooper and Waldby [16] argue that the human body has become a site of economic activity, in which processes such as hormonal regulation, fertility, and ageing are extracted and monetised. This is not merely metaphorical: the body is directly shaped by commercial interventions through biomedicine, biotechnology, and digital health, rendering it a marketable asset within global capitalism. Initiatives such as TRT aimed at achieving “peak testosterone” (see Fig. 5 below) exemplify

Launching soon

Achieve peak testosterone & longevity

Get early access to board certified clinicians and prescription products designed to achieve peak testosterone, strength and energy. Delivered completely online.

Reserve priority access

Fig. 5 “Launching soon,” the Enhanced Games’ priority access to certified clinicians and prescription products to achieve peak testosterone, strength and energy

how biological modification is packaged, marketed, and traded within health markets.

By deploying aspirational language such as “longevity,” “peak testosterone,” and “optimisation,” the EG actively construct a market for enhancement, fostering consumer desire for enhanced biocapital. The website prominently reinforces the perceived need for intervention while simultaneously offering streamlined online solutions to address these perceived deficiencies.

In contemporary biomedical and cultural discourse, distinctions between health (as normal function), enhancement (as improvement beyond the norm), and consumerism (as individualised, market-driven choice) have become increasingly blurred. The EG further obscure these boundaries by marketing treatments explicitly as enhancements. This is evident in their telehealth services, where clinicians prescribe products for “enhancement goals,” reinforced by the tagline: “Not just ‘healthier’. Enhanced.”

By framing these interventions as medically justified, safe, and personally empowering, the EG engage in what Cooper and Waldby [16] term a regime of bioaccumulation, in which bodies are continuously drawn into cycles of biomedical consumption. The website functions not merely as a platform for sports promotion but as a gateway to the bioeconomy, where enhancement is commodified and normalised. This is reinforced by linking enhancement to identity and status, particularly for men, fostering dependency on biomedical interventions to maintain desirable bodily traits (Fig. 6).

Discussion


This study offers a novel perspective on the EG, revealing that its strategic aims extend far beyond competitive sport. Positioned at the intersection of sport, biotechnology, and digital health, it represents the first analysis to critically examine the EG through this lens. In doing so, the study raises urgent concerns regarding the capitalist expansion of enhancement via direct-to-consumer telehealth. Given the well-documented overprescription of TRT and its associated harms, the EG appears to further

fuel these concerns, fostering dependency and ultimately undermining autonomy and informed choice.

Historically, TRT was prescribed for clinically diagnosed hypogonadism [4, 52]. However, the rise of telehealth has expanded access and availability, blurring the line between medical necessity and enhancement [25], which the EG further underscore by bringing TRT to the forefront of viewers’ consideration. The overprescription of TRT via digital platforms raises serious concerns [3, 43, 62], driven in part by commercial advertising and a broad, often lax, definition of hypogonadism [51]. The EG leverage the power and global connectivity of social media to reach vast audiences, extending their message beyond traditional enhancement communities, showcasing their services, and employing persuasive marketing strategies (e.g., elite athletes breaking world records) to capture a wider, more heterogeneous customer base. Yet, with reduced in-person diagnostic oversight, telehealth may enable treatment in the absence of clear clinical indicators [3], exposing individuals to health risks such as cardiovascular issues, infertility, mood disturbances, and suppression of endogenous testosterone [53]. This, we argue, fosters iatrogenic dependency, in which individuals rely on continuous hormonal intervention to sustain a sense of normalcy [84, 98].

Drawing upon Cooper and Waldby’s [16] concept of bioaccumulation, in which bodies are continuously drawn into cycles of biomedical consumption, it is therefore concerning that the EG may pursue and exploit the notion of iatrogenic dependency as a profit-driven strategy, with individuals potentially locked into TRT and requiring ongoing pharmaceutical intervention to maintain a sense of normalcy.

Importantly, the reframing of TRT from a therapeutic intervention to an enhancement tool is problematic, as it may encourage uptake among younger or less-informed individuals who overlook long-term harms, lack sufficient information to make informed choices, and have no clinical need. Within the current investigation, the EG leverage endorsements and testimonials from athletes who have broken world records as persuasive marketing



Expert Online Clinician Access

Clinicians personalise prescription products to your performance goals.

- ✓ Personalized prescriptions based on your blood test results
- ✓ Ongoing monitoring and plan adjustments
- ✓ Direct access via secure telehealth platform

Not Just “Healthier”. Enhanced.

Clinician-approved prescription products embraced by the world’s fastest athletes.

- ✓ Prescription products to improve strength, energy, recovery, and focus.
- ✓ Testosterone products
- ✓ Longevity products

Fig. 6 Image of expert online clinicians and testosterone products to improve strength, energy, recovery, used by the worlds fastest athletes

strategies that reframe TRT as a tool to improve performance rather than merely treat illness or disease. Although the FDA issued safety warnings in 2014 and modified testosterone labelling to highlight potential health risks [102], it remains unclear how such measures have influenced the market. Moreover, research highlights how persuasive marketing strategies deployed by TRT companies contribute to increased uptake [3, 60]. Generally, these strategies target a market concerned with anti-ageing, the so-called “andropause” or “male menopause” [67, 111, 112], where TRT is used to delay, offset, or reduce the natural ageing processes, as conceptualised through the bioeconomy framework [16]. More recently, among various other services, ‘PIED’ influencers on social media have begun promoting TRT companies, offering discount codes to their followers [75], adding further complexity to the expanding TRT market. With influencers seeking to shape their followers’ perceptions and purchase intentions [21–23], the services they provide are not without vested interests. Indeed, the EG are actively building their own market and endorsement strategy, in which athletes promote and represent the EG

brand, challenging perceptions associated with sport-related cheating and deviancy, and shifting the emphasis on to choice and autonomy to contest the current status quo and attract consumers.

Given the suggested increasing prevalence of PED use [48], the widespread circulation of low-quality substances [76], the insufficiency of existing harm reduction strategies [104], and the persistent stigma embedded within PED communities [18–20, 71], TRT delivered through platforms such as the EG may represent a partial solution. While not without ethical or clinical concerns, particularly that prolonged administration of exogenous testosterone suppresses endogenous testosterone production, reinforcing dependence [2], such a model could provide individuals with improved access to support, medical supervision, and regulated pharmaceutical-grade substances. In this sense, TRT through structured telehealth services like the EG may offer a pragmatic form of harm reduction, addressing a long-standing gap in healthcare provision for a marginalised population that has historically lacked adequate, non-judgemental care. This paradox, between harm reduction and harm

production, raises pressing questions regarding the sustainability of such strategies. Thus, if the EG are to realise their potential within the realm of harm reduction, they must reconsider and address their profit-driven motives in light of the commodification of dependency. Although this approach does not resolve the broader complexities associated with enhancement culture, it may contribute to safeguarding the health and wellbeing of individuals who would otherwise operate entirely outside formal medical systems.

Implications

With mounting evidence indicating that TRT services continue to be provided without prescribed medical necessity [3, 43, 62], and with the EG further reinforcing such trends, there is clear concern regarding the notion of dependency, that is, individuals developing a reliance on exogenous testosterone, which undermines bodily autonomy, sovereignty, and personal choice, principles central to the EG Declaration on Human Enhancement.

First, autonomy refers to the capacity for self-governance [27, 63], and bodily autonomy specifically denotes the right to make informed decisions about one's own body [64]. While choosing to initiate TRT may appear autonomous, the development of physiological dependency complicates this freedom. TRT suppresses endogenous testosterone production, potentially rendering individuals reliant on ongoing external supplementation to maintain normal hormonal function (Baggish et al. 2017) [84, 98]. Discontinuation can result in severe symptoms, including fatigue, depression, muscle loss, and infertility [1, 8, 28]. Consequently, what begins as a voluntary intervention can evolve into chronic dependency, undermining future autonomy and diminishing control over one's hormonal regulation.

Second, bodily autonomy depends on informed decision-making, which in healthcare requires a clear and comprehensive understanding of the potential risks and benefits of any intervention [69]. In the context of TRT, it remains unclear whether marketing strategies, such as those employed by the EG, adequately communicate the risk of developing physical or psychological dependency. If individuals are not fully informed, the ethical legitimacy of such services becomes, at best, questionable. Indeed, given the commercial and financial interests of TRT providers, including the EG, it is uncertain whether customer well-being is prioritised over profit. Profit-driven objectives may compromise transparency and skew the presentation of information, framing TRT exclusively in a positive light and glossing over potential health harms to encourage sales.

Recommendations

Drawing the evidence together, this penultimate section offers a series of recommendations intended to guide the responsible development and oversight of telehealth services, particularly in light of the EG's entry into this domain. These recommendations aim to mitigate emerging ethical, medical, and socio-economic concerns associated with the commodification of enhancement therapies.

1. *Strengthening regulation of telehealth prescribing*
With the EG entering the TRT and telehealth market, there is an urgent need for strengthened regulatory oversight. Independent bodies should establish telehealth-specific protocols grounded in evidence-based diagnostic criteria, including mandatory blood testing, to curb the over-prescription of testosterone to young men without clear clinical indication. While existing issues predate the EG, their business model risks exacerbating these trends as they expand, commodify, and extract monetary value from the human body as a site of biomedical intervention [16].
2. *Separating commercial interests from clinical care*
The convergence of commercial incentives and medical decision-making, particularly on platforms profiting from testosterone prescription and sales, demands critical scrutiny. Ethical safeguards are required to uphold clinical integrity, ensuring transparency regarding financial incentives, practitioner independence, and data privacy to prevent exploitation under the guise of digital health. This must also include comprehensive disclosure of potential risks and benefits to all potential use of TRT, with particular emphasis on the likelihood of iatrogenic dependency, thereby supporting genuinely informed decision-making.
3. *Advancing harm reduction for the PED community*
Given the EG's potential to further normalise the use of testosterone and related PEDs, they hold a clear duty of care to the PED-using community. Despite their controversial stance, the EG are uniquely positioned to disseminate harm reduction practices, promote routine health monitoring, and support informed decision-making. Central to these initiatives should be the development and integration of resources grounded in lived-living experience [77].

Conclusion

Our findings underscore the argument that the EG extend far beyond the realm of sport. While they maintain a sporting arm focused on breaking world records and challenging dominant anti-doping paradigms, their

expansion into telehealth and the TRT market reveals a broader commercial and ideological agenda. This development raises significant concerns about the appropriation of therapeutic frameworks for enhancement purposes. Given the already documented issue of TRT overprescription, the EG's involvement in this sector is likely to further exacerbate these trends. The most pressing concern is the potential creation and exploitation of a market of dependency, whereby individuals initiated into testosterone use may remain indefinitely reliant on it due to suppression of endogenous production. This is particularly problematic for people who initiate testosterone through TRT without a clinical need. Nevertheless, the EG also present a unique opportunity to advocate for targeted, ethical, and evidence-based harm reduction strategies that prioritise the health of people who use PEDs. Rather than perpetuating unregulated pharmaceutical consumption, the EG could be positioned to support a more informed and health-oriented enhancement culture.

Author contribution

LC: Conceptualisation, data collection, analysis, write up IK: Conceptualisation, analysis, write up.

Data availability

All data presented in this paper in open and publicly available.

Declarations

Competing interests

Imran Khan owns a wellness clinic in the UK and provides expert guidance on human enhancement drugs at the Enhanced Games.

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