

# HED Matters

Theme: Enhancement Drugs and  
Prevention

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*Photo by Phillip Kofler from Pixabay*



**HUMAN**  
ENHANCEMENT  
DRUGS NETWORK

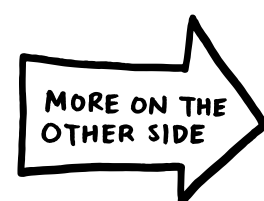
# Editorial

Dear Reader,

If there is one thing the COVID-19 pandemic has taught us it is that the way a society responds to a public health crisis has a direct and profound impact on the extent and severity of the economic and human consequences, not least on the safety, health, and well-being of its citizens. Partial or full-scale lockdowns, recommendations on social distancing, legal requirements to wear face masks in crowded places, and the omnipresence of hand sanitizer dispensers are all examples of public health interventions that governments have implemented with great success to contain the virus and prevent it from spreading. Over and over again we have seen that in countries where decision makers have systematically ignored the threat of COVID-19 and failed to respond appropriately, people have suffered unnecessarily either from the disease itself or from the consequences of a delayed and more intrusive response.

Responding appropriately and effectively to public health issues is the topic of this and the two forthcoming issues of HED Matters. Together, they represent a miniseries of HED Matters focusing on interventions designed to address HED use and the associated harms, with each issue being dedicated to a distinct type of intervention along the 'continuum of care': prevention, harm reduction, and treatment. We decided to produce this miniseries because dedicating a single issue to interventions would not do justice to the broad and diverse range of important services and programmes that are delivered on a day-to-day basis to reduce the public health impact of HED use and improve the situation for people who use HEDs.

We will bring contributions from a range of experts, including scholars, journalists, and healthcare providers, who present their research findings and share their experiences in relation to various HED interventions. In the current issue on prevention, Professor Emeritus from Oregon Health & Science University, Dr Linn Goldberg, provides a brief overview of what is perhaps the most well-known intervention to prevent the initiation of anabolic steroid use in sport: The ATLAS programme. As its founder, he also presents the rationale for designing the programme and reflects on what today's intervention researchers can learn from it.



The next author, Dr Philip Hurst from Canterbury Christ University, presents recent research findings on the role of morality in athletes' decision to use prohibited substances (doping) and how educational interventions targeting moral variables such as moral identity, moral emotions, and moral disengagement can help prevent this and other doping-related behaviours. Finally, in the early career researcher (ECR) spotlight piece, doctoral student Ekain Zubizarreta from Université Paris Nanterre shares the findings from his ethnographic field study conducted amongst national anti-doping stakeholders in Algeria, Colombia, and South Africa. He argues that current anti-doping efforts such as those promoted by the World Anti-Doping Agency (WADA) are not fit for purpose and suggests a number of recommendations on how to remedy this situation.

All there is left to say is that we hope you will enjoy reading this and the next issues in the miniseries!

Yours sincerely  
The HEDN Board



Dr Katinka van  
de Ven



Dr Kyle  
Mulrooney



Anders Schmidt  
Vinther



Dr Matthew  
Dunn



Dr Alexandra  
Hall

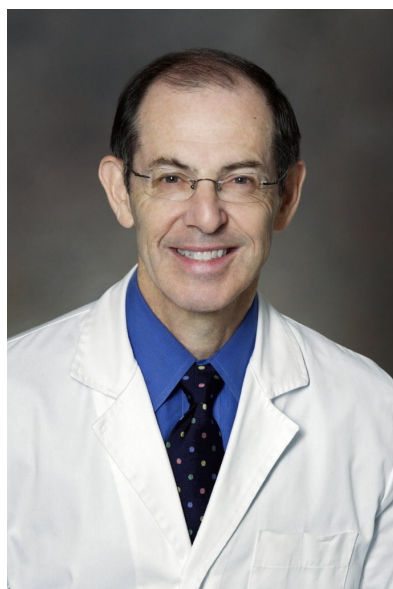


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# The ATLAS program: Team-based prevention of anabolic steroid use in adolescents and interview with its founder, Dr Linn Goldberg



## Biography

Linn Goldberg, M.D. is Professor Emeritus at the Oregon Health and Science University. He is a research scientist, clinician, and educator. Goldberg received the Lifetime Achievement Award from the President's (Obama) Council on Physical Fitness, Sports and Nutrition, the Mentor International Achievement Award from Sweden's Queen Silvia, and the Champion Award from Sports Illustrated, co-presented by then-Senator and current U.S. President Joseph Biden, Jr.



## How did you become interested in the prevention of anabolic-androgenic steroids (AAS) use?

A student requested my assistance with an anabolic-androgenic steroid (AAS) presentation to young athletes. Instead, we ended up discussing studying different educational approaches to determine which strategies might effectively reduce the desire to use AAS. The interventions were; (1) handouts of factual risks and benefits of AAS; (2) three 30-minute medical student presentations regarding the potential risks and benefits of AAS use; (3) three presentations emphasizing only the negative effects of AAS ("scare tactics,"); and (4) athlete team members leading AAS risk and benefit discussions during three sessions. Students were evaluated by pre- and post-intervention questionnaires. As a result, we performed independent studies over three years.

The results revealed that handouts had no effect on athletes' intentions to use AAS. A balanced presentation of AAS risks and benefits improved their knowledge, but not their attitudes towards AAS use. The negative-only presentation did not change knowledge but paradoxically increased athletes' intention to use AAS. With athletes' team member-led discussions, knowledge improved, and the desire to use AAS was reduced. Thus, we studied a team-based program to reduce AAS intent and use that we named 'Athletes Training and Learning to Avoid Steroids' (ATLAS). Because people who use AAS are often polysubstance users, we included other drugs and 'sports supplements' and provided alternatives (sports nutrition and strength training) to the intervention.



*Photo by Sam Balye on Unsplash*

**It's been about twenty-five years since your team published the results from the evaluation of ATLAS. What can we learn from ATLAS today?**

ATLAS used a team-based, highly scripted, peer-led program to improve health behaviors. The model has continued to be effective among a wide variety of participants, improving numerous health behaviors. Program effects appeared durable and resulted in lower healthcare costs.

**Designing and evaluating large-scale interventions can seem overwhelming and is often time consuming and resource demanding. Any advice to young researchers?**

As with any hypothesis, test it in small pilot studies using validated measures. A step-wise approach will help establish the direction of more extensive intervention studies. Research should have theoretical underpinnings and be cognizant of prior research. You often learn more from your failures than your successes.

**Thank you for sharing your knowledge and expertise!**

You're welcome!

**THE ATLAS PROGRAM**  
Athletes Training and Learning to Avoid Steroids



## Features and implementation of the ATLAS program

### ATLAS Overview

The ATLAS program is a multi-dimensional program for high school male athletes integrated into the team's practice setting, using the Social Learning Theory and Theory of Reasoned Action. Its goals were to reduce or intentions to use anabolic steroids; prevent 'sports supplement' use; reduce alcohol and other illicit drug intake; and increase factors that reduce substance use. To do this, the program taught alternatives to performance enhancing drugs and supplements, including sports nutrition, and strength training.

### ATLAS Structure

The team's coach introduced each session and kept students on schedule. About 80% of the 10-week program was delivered in small groups or squads of about five athletes. One athlete was the squad leader, who led the educational games, role plays, deconstruction of media messages, and led their squad in understanding sports nutrition and strength training. Sessions had 3-4 activities. The program was scripted, so it was "goof proof." Each participant had their own manuals, and athletes were given a pocket-sized guide that covered sports nutrition, meal planning, strength training schedules, along with information about supplements and drugs.

### Dissemination

ATLAS was used in 45 of fifty states with approximately 50,000 male athletes. A program using portions of ATLAS was performed in Australia, assessing body image perception.

### ATLAS Outcomes

The ATLAS study was funded by the National Institute on Drug Abuse and involved over 3,200 male athletes at 31 high schools. Students were evaluated using a 168-item questionnaire before and after the program and one year after the program. A process called mediation analysis helped us understand why the program worked. (Tables 1-3).

#### Table 1. Drug Use Intentions and Behaviors

- Reduced AAS intentions (unpublished; reduced combination of AAS, Amphetamines and Growth Hormone)
- Decreased likelihood of alcohol and illicit drug use at the one-year follow-up
- Reduced new drinking and driving

#### Table 2. Health Promotion Behaviors/Efficacy

- Reduced sport supplement use
- Improved nutrition knowledge and behaviors
- Enhanced strength training self-efficacy

#### Table 3. Risk and Protective Factors

- Greater knowledge of AAS and alcohol effects on athletics
- Improved drug refusal skills
- Stronger beliefs of AAS harmful effects and personal perceived susceptibility
- Less likely to believe sport supplement advertisements and positive AAS use images.
- Greater belief in coach intolerance to drug use

ATLAS' effects were due to altering team norms, knowledge improvements and athletes' beliefs in the harmful effects of steroids.



Photo by Денис Козьяков via Pixabay



# Targeting personal morality in anti-doping education

*By Dr Philip Hurst, Senior Lecturer in Sport and Exercise Psychology,  
Canterbury Christ Church University, United Kingdom*

In July 2021, US 100-m sprinter, Sha'Carri Richardson, failed a drug test for taking the prohibited substance marijuana prior to the US Olympic trials. While Richardson mentioned that she did not use marijuana to enhance her performance but to help her mentally cope after the death of her mother, according to the World Anti-Doping Code, Richardson had taken a prohibited substance and was banned from competing at the Tokyo 2020 Olympics. As a result, the incident caused a divide in both the sporting and non-sporting community of whether she should be allowed to compete at the Olympic Games.

Stories such as Richards' case are common in sport, where athletes' anti-doping rule violations permeate the media. We immediately have feelings about such stories when we see them, and often make judgements of approval and reproach. Some of us ask the question "what would I have done in her place?" In a quest for understanding the foundational principles of human moral cognition, sport psychologists have done exactly this: asked athletes to decide whether they would take a performance enhancing substance. This research has shed light on several moral variables that play a role in an athletes' decisions to dope. In this article, I will provide an overview of three moral variables that have shown to influence an athlete's decision to dope, namely moral identity, moral emotion, and moral disengagement, and highlight the ways in which anti-doping practitioners can target these to help athletes make more informed decisions towards the use of prohibited substances.

## Moral variables predicting doping

Moral identity is a concept referring to the importance of moral traits to a person's identity. Traits include values such as honesty, fairness, and hard working. Athletes with a strong moral identity are suggested to endorse these values and are motivated to behave in line with them due to their desire to maintain consistency between their moral self and behaviour. Essentially, athletes whose identity is organised around their moral beliefs, are more likely to turn those beliefs into action, with several studies reporting that athletes who have a high moral identity are less likely to dope.



*Photo by Brett Jordan on Unsplash*

In his social cognitive theory of moral thought and action, Albert Bandura proposed that people feel negative emotions if their behaviour does not match their moral standards. This suggests that athletes who have a high moral identity and dope are more likely to feel negative emotions because doping violates their moral standards. Anticipating moral emotions, such as guilt and regret, can therefore regulate an athlete decision to use prohibited substances and play an important role in deterring doping.

Many athletes, however, report that they dope without feeling regret or guilt. As evidenced by Lance Armstrong in his interview with Oprah Winfrey, when asked whether he felt bad for doping, his response was “no”. In the sport psychology literature, researchers have examined how athletes can dope, and not feel any sense of guilt or regret by using a thought process referred to as moral disengagement (Boardley & Kavussanu, 2011). Moral disengagement involves people using cognitive mechanisms to help them make unethical decisions without feeling negative emotions. For example, in relation to doping, athletes have justified doping by suggesting “everyone else is doing it” (i.e., diffusion of responsibility), inferring another person instructed them to do it (i.e., displacement of responsibility), and downplaying the harm it can cause (i.e., distortion of consequences).

Moral identity, moral emotions, and moral disengagement are significant predictors of doping. This highlights that for organisations aiming to prevent doping, they should target these in their interventions. In a project led by Professor Maria Kavussanu at the University of Birmingham, researchers developed and evaluated an intervention that aimed to strengthen athletes’ moral identity, highlighting the negative emotions athletes experienced for doping, and challenging moral justification mechanisms (Kavussanu et al., 2021). Results showed that six-months after attending the intervention, athletes were less likely to dope and morally disengage and more likely to anticipate feelings of guilt for doping. Below, I explain examples of how practitioners can achieve similar results by targeting moral variables in their anti-doping interventions.

**These examples can be further emphasised with narratives explaining the reasons for acting morally, as depicted by Sárosi, who stated: “It would have stolen my happiness if I had qualified for the Olympic Games at the price of disregarding the spirit of sportsmanship”.**

#### **Targeting moral variables in anti-doping interventions**

Strengthening moral identity can be achieved by showing examples of athletes respecting their opponents, acting honestly, and working hard. Such examples are evidenced in sport every year, including the sprint canoeist, Eivind Vold, disqualifying himself from third place at the World Championships after committing an error unnoticed by officials, and the badminton player, Laura Sárosi, offering her opponent a new pair of shoes after they became damaged and subsequently losing the match and her place at the 2016 Olympic Games. These examples can be further emphasised with narratives explaining the reasons for acting morally, as depicted by Sárosi, who stated: “It would have stolen my happiness if I had qualified for the Olympic Games at the price of disregarding the spirit of sportsmanship”.

Anti-doping practitioners can use stories of athletes who have doped to highlight the negative emotions experienced for doing so. The disqualified 2004 Olympic champion, Tyler Hamilton, mentioned that “there was a lot of guilt involved in winning that gold medal” and the British cyclist, David Millar, explained that after injecting himself with prohibited substances and achieving the yellow jersey at the Tour de France, he did not “feel jubilation” but instead “regrets” the decision to dope. Thus, practitioners should highlight that while athletes’ may dope and win, they are likely to feel intense negative emotions, such as guilt and regret, because of the methods in which they achieved their success.

To decrease the tendency to morally disengage, anti-doping practitioners can provide athletes with tools to challenge moral disengagement mechanisms. For example, it was cited in the early 2000’s that cyclists doped because “everyone was doing it”, which relates to the moral disengagement mechanism diffusion of responsibility. However, while a large proportion have admitted to doping in this era of cycling, it is inaccurate to state everyone doped, as there were athletes who competed without doping (e.g., Christophe Bassoons). Further justifications, such as displacement of responsibility and distortion of consequences can be challenged by making it clear that doping is an athlete’s decision even when they are instructed to do so and that it can prevent an athlete who has not doped from achieving success, respectively.

### Conclusion

By asking athletes questions about whether they would dope, research has identified the significant role personal morality plays in the decision to use prohibited substances. This research has identified that the moral variables, moral identity, moral emotions, and moral disengagement are significant predictors of doping. Importantly, anti-doping education interventions targeting these variables can reduce the likelihood of an athlete doping. To develop effective anti-doping education interventions, it is important that national and international anti-doping organisations target moral variables and highlight to athletes the importance of morality in their decisions to use prohibited substances.

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**Dr Philip Hurst** is a Senior Lecturer in Sport and Exercise Psychology at Canterbury Christ Church University. His research examines the role of the mind in the effectiveness of performance enhancing substances and the impact of anti-doping education interventions on athletes’ decision to use prohibited substances. With a background in sport science and psychology, alongside strong interests in both physiology and neurobiology, he examines his research from an interdisciplinary perspective.





*Image by Chepalos from Pixabay*

# ERC Spotlight: Doping prevention: new challenges and perspectives

*By Ekain Zubizarreta, Doctoral Student, Institut des Sciences Sociales du Politique, Université Paris Nanterre, France*

The main objective of my PhD thesis is to study the evolution of the power relationships established by WADA on the States since the second version of the World Anti-Doping Code, or WADC 2009, came into force (Wagner, 2010, Zubizarreta & Demeslay, 2021). I describe how anti-doping rules are implemented nationally, based on an ethnographic approach —rather uncommon in anti-doping research. This approach led me to study public anti-doping policies in the field, in Algeria, Colombia and South Africa. I thus analyse how everyday anti-doping work is carried out and how this work affects the required process of harmonisation and compliance.

I mainly focused on the action taken by national anti-doping stakeholders, understanding this work to be an essential part of national anti-doping policy as the hinge between the global harmonisation process (and WADA's demands and pressure to apply anti-doping regulations) and the local reality to which these regulations must be applied.



*Photo by Steve Buissinne on Pixabay*

I did an important part of my fieldwork at public institutions (NADOs, ministries responsible for sport, sports federations, etc.), but I also took an interest in the experience of those targeted by the regulations, i.e., the athletes. Unfortunately, they are rarely considered when analysing a country's anti-doping policy, when in fact I believe that they should be given a central role in these investigations.

The testimonials of stakeholders and athletes, which we collected from interviews, have helped us to understand how they see the fight against doping and their experience in relation to anti-doping actions. The aim of this text is to present two testimonials and reflect on the appropriateness of the anti-doping strategies currently in place (we have preferred not to mention the country, since doing so could have negative consequences on its image and could hinder the objective of our presentation):

1. One prevention specialist told us how, while giving a talk on prevention to a group of adolescent college students, two students had started to counter his arguments on the health risks involved in consuming anabolic steroids. The two students claimed that the risks could be avoided by following the necessary diet to counteract adverse effects. The students were familiar with all details of the diet, and they also knew the products (some legal, others illegal in the country) and their effects, dosage and cycles of consumption. The preventologist had far less knowledge of the subject than these young people, meaning that he was unable to provide an adequate response or refute their arguments.
2. During an informal chat on doping with a group of young athletes, these athletes said that if the reward (of doping) was being able to live as a professional athlete for a few years, it was worth while running the risk of being controlled and sanctioned. I asked them what they thought of the potential health risks and of not respecting fair play in sport (the two main arguments for doping prevention initiatives). They responded that these arguments held little meaning for them. They had a clear idea: an athlete's life would offer them a much more "promising" future; a better quality of life; much easier access to decent housing; and more free time. The youths even argued that, in the long term, they could enjoy better health, even if they did suffer some kind of consequence due to having used doping substances. The alternative job opportunities for some of the athletes involved harsh physical work which would, they claimed, have more adverse consequences on their health. On the subject of fair play, some said that they wanted to respect it, while others said that equal opportunities in sport do not exist anyway. They, as youths from a "less developed" country, did not have the same possibilities as athletes from other countries with respect to access to good coaches, top quality sporting material or to sports scholarships.



*Image by Keith Johnston from Pixabay*

Since 2005, WADA's promotion of research in social sciences has almost exclusively concentrated on studying the psychological traits of athletes, seeing them as potential future offenders. To prevent these violations, WADA has promoted a doping prevention program based on awareness-raising messages for athletes and their entourage based on two pillars: protection of the athlete's health and respect for fair play.

While the prevention promoted by WADA is based on this psychological conception –focused on trying to change athletes’ behaviour– other works in social sciences affirm the complexity of the doping issue: of the different reasons for taking doping products and the ineffectiveness of the preventive arguments used (see above or Christiansen, Vinther, & Liokaftos, 2017), of structural factors that may push athletes to dope (Aubel & Ohl, 2014) and of the importance of taking cultural aspects into account if prevention efforts are to be effective (Trabal & Le Noé, 2019). All highlight the need to abandon the current conception of doping prevention as unique and equal for everyone and also call for prioritising prevention adapted to local needs and particularities. Dimeo and Møller (2018) go further and propose a complete paradigm shift, replacing the current “zero tolerance” approach with a “harm reduction” approach.

This said, I would like to end by appealing to WADA to stop promoting and fostering reductive and simplistic stances on doping and to start taking into consideration the complexity of the issue. WADA already has a network of local partners (NADOs and RADOs) and should listen to them in order to understand their reality and improve prevention interventions, instead of simply imposing new obligations such as those arising from the International Standard for Education.

Lastly, I would like to end by stressing our responsibility as researchers in social sciences. We must steer clear of proposing rapid solutions (simplistic and reductive) to stakeholders in matters as complex as the one at hand. I firmly believe that researchers in social sciences must help to highlight the complexity of the object of study and all the factors that surround it. Otherwise, the proposals stemming from these research works could be ineffective or even contribute to public action generating unexpected consequences (Dimeo & Møller, 2018).



**My interest in anti-doping stems from my attraction to the regulation of sport and its relationship with politics and geopolitics. I am working on my doctoral thesis under the direction of Patrick Trabal, holder of the UNESCO Chair “Doping Studies and Analysis of Anti-Doping Policies” in whose activities I have participated, and who has given me the possibility to enrich my outlook as a researcher.**

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ISI.



# Upcoming Events and Conferences



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2021 was yet again a strange year due to the COVID-19 pandemic, and whilst it is worth hoping that the situation gradually returns to near-normal in 2021, most conference organisers have played safe and postponed their conference activities.

## Conferences:

- 7-10 Nov 2021: **Australasian Professional Society on Alcohol & other Drugs (APSAD) conference** (online): <https://apsadconference2021.com.au/>
- 16-24 Nov 2021: **Harm Reduction International Constellations** (online): <https://www.hri.global/constellations/>
- 23-24 Nov 2021: **Global Education Conference, World Anti-Doping Agency**: <https://www.wada-ama.org/en/events/2021-11/global-education-conference>
- Postponed until 2022: **International Network of Doping Research Conference** (Aarhus, Denmark): <https://ph.au.dk/en/research/research-units/sport-and-body-culture/research-unit-for-sport-and-body-culture/international-network-of-doping-research/> Contact Dr April Henning for more information: [april.henning@stir.ac.uk](mailto:april.henning@stir.ac.uk)

## Let us know!

... if you are aware of any upcoming conferences and events

# Achievements by HEDN members



*The human enhancement drugs network represents a diverse group of productive scholars from different academic disciplines. Below you can find the most recent work published by the members of the network.  
Photo by Pexels from Pixabay.*

## Peer-reviewed journals

- Atkinson, A.M., **van de Ven, K.**, Cunningham, M., de Zeeuw, T., Hibbert, E., **Forlini, C.**, Barkoukish, V., & Sumnall, H.R. (in press). Performance and image enhancing drug interventions aimed at increasing knowledge among healthcare professionals (HCP): reflections on the implementation of the Dopinglinkki e-module in Europe and Australia in the HCP workforce. *International Journal of Drug Policy*. DOI: <https://doi.org/10.1016/j.drugpo.2021.103141>
- Bates, G., & **Vinther, A.S.** (in press). Applying insights from implementation and intervention science to improve the evidence base on image and performance-enhancing drugs (IPEDs) interventions. *Performance Enhancement & Health*. DOI: <https://doi.org/10.1016/j.peh.2021.100193>
- **Boardley, I.D.**, Chandler, M., **Backhouse, S.H.**, & Petróczi, A. (in press). Co-creating a social science research agenda for clean sport: An international Delphi study. *International Journal of Drug Policy*. DOI: <https://doi.org/10.1016/j.drugpo.2021.103161>
- Petróczi, A. [...] **Backhouse, S.H.**, **Boardley, I.D.**, & the RESPECT Consortium (in press). Understanding and building clean(er) sport together: Community-based participatory research with elite athletes and anti-doping organisations from five European countries. *Psychology of Sport and Exercise*. DOI: <https://doi.org/10.1016/j.psychsport.2021.101932>
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### Other published articles

- Andreasson, J., & Henning, A. (2021). *Performance Cultures and Doped Bodies: Challenging Categories, Gender Norms, and Policy Responses*. Common Ground Research Networks. US: Illinois

### Webinars and other events

- HEDN (25 Feb 2021). **Enhancement drugs and women**. Freely available here: <https://humanenhancementdrugs.com/education-and-training/enhancement-drugs-and-women/>



### **Call for help!**

Dr. Samuel Iff is an occupational physician and a clinical epidemiologist at the State secretary of economics in Switzerland. Samuel is conducting research in the area of performance and image enhancing drugs (PIEDs) and would like information about the following:

1. What psychometric questionnaires are considered useful in PIED users to examine personality traits?
2. Is there any information out there about the influence of IPED use on regular hormonal blood tests used in practice?

**Contact Samuel Iff:** samuel.iff@gmail.com

# Want to become involved?

## Membership

HEDN is an international group of multi-disciplinary researchers with an interest in human enhancement drugs from various universities. We seek to strengthen working relationships between academic sectors, governmental agencies, NGOs, users groups and others interested in human enhancement drugs, performance and image enhancing drugs, and doping substances.

You can find the entire Human Enhancement Drugs Network on our website, where you can apply for membership: <https://humanenhancementdrugs.com/members/become-a-hedn-member/>

## Follow us on social media to stay up-to-date!

Follow us via social media to stay up-to-date about the latest developments in the field of human enhancement drugs.

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