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Geolocalisation of athletes for out-of-competition drug testing: ethical considerations. Position statement by the WADA Ethics Panel

Pascal Borry,[1] Timothy Caulfield,[2] Xavier Estivill,[3] Sigmund Loland,[4] Michael McNamee,[5] Bartha Maria Knoppers,[6] on behalf of the WADA Ethics Panel

[1]Department of Public Health and Primary Care, University of Leuven, Leuven, Belgium
[2]Faculty of Law and School of Public Health, University of Alberta, Edmonton, Canada
[3]Genetics Program, Sidra Medical and Research Centre, Doha, Qatar
[4]Department of Cultural and Social Studies, Norwegian School of Sport Sciences, Oslo, Norway
[5]College of Engineering, Swansea University, Swansea, UK
[6]Centre of Genomics and Policy, McGill University, Montreal, Canada

Correspondence to
Professor Pascal Borry, Centre for Biomedical Ethics and Law, Leuven 3000, Belgium; pascal.borry@med.kuleuven.be

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ABSTRACT

Through the widespread availability of location-identifying devices, geolocalisation could potentially be used to place athletes during out-of-competition testing. In light of this debate, the WADA Ethics Panel formulated the following questions: (1) should WADA and/or other sponsors consider funding such geolocalisation research projects?, (2) if successful, could they be proposed to athletes as a complementary device to Anti-Doping Administration and Management System to help geolocalisation and reduce the risk of missed tests? and (3) should such devices be offered on a voluntary basis, or is it conceivable that they would be made mandatory for all athletes in registered testing pools? In this position paper, the WADA Ethics Panel concludes that the use of geolocalisation could be useful in a research setting with the goal of understanding associations between genotype, phenotype and environment; however, it recognises that the use of geolocalisation as part of or as replacement of whereabouts rules is replete with ethical concerns. While benefits remain largely hypothetical and minimal, the potential invasion of privacy and the data security threats are real. Considering the impact on privacy, data security issues, the societal ramifications of offering such services and various pragmatic considerations, the WADA Ethics Panel concludes that at this time, the use of geolocalisation should neither be mandated as a tool for disclosing whereabouts nor implemented on a voluntary basis.

Some prohibited substances are detectable only for a limited period of time in an athlete's body while still maintaining a performance-enhancing effect. Designed to protect the integrity of sport, out-of-competition doping controls increase the efficiency of the antidoping programmes. One approach, the 'whereabouts system,' was introduced as a mechanism to enable out-of-competition testing. Indeed, the only way to perform such testing is by knowing where athletes are at a particular time. Its efficiency depends on the ability to be able to test athletes at times at which cheaters are most likely to use prohibited substances and methods. Athletes must not be aware such testing will occur.

The whereabouts system has been heavily criticised in the past for various reasons, including its surveillance character,[1] its infringement of privacy,[2 3] its high costs and the burden it places on athletes.[4] Nevertheless, the system received sufficient support, and also recently, the European Court of Human Rights concluded in its ruling of 18 January 2018 (Affaire féderation nationale des associations et syndicats sportifs et autres c. France) that the whereabouts system can be defended on public interest grounds. The Court rules that restrictions imposed on the right to respect for private and family life (article 8) can be justified considering that the reduction or removal of whereabouts obligations would lead to an increase in the dangers of doping for the health of sports professionals and of all those who practise sports and would be at odds with the European and international consensus on the need for unannounced testing as part of doping control.

Although athletes themselves often see the whereabouts system as a 'necessary evil',[5] they have also indicated that the system interfered negatively in their everyday life.[4 6] Recently, several athletes have publicly declared that they would prefer to be 'geolocalised'–that is, to have their location identified automatically by a wearable or implantable technology– rather than having to regularly fill in and update their whereabouts information into WADA's Anti-Doping Administration and Management System (ADAMS) software platform.[6] At various occasions, proposals have been made to radically change the current antidoping procedures, and the use of Global Position System (GPS) technology to track athletes has been put forward as a new tool.

As part of their call for research programmes, the IOC and WADA have received several project proposals aiming at developing devices or smartphone applications that would facilitate the geolocalisation of athletes. To date, the IOC and WADA have refrained from sponsoring such studies because of concerns with the ethical aspects that such tools could potentially generate. In addition, such tools are often misperceived as being replacements for ADAMS, when in reality whereabouts information for ADAMS would still be needed since instant geolocalisation would not enable testing authorities to plan their missions sufficiently ahead of the desired collection time.

The WADA Ethics Panel discussed this topic during its meeting in Montreal on 7–8 March 2016 and in Lausanne on 12 March 2017. The WADA Athlete Committee was consulted in the preparation of this position paper. The WADA Ethics Panel is a designated panel assembled by the WADA Executive Office. Its purpose is to provide expert ethical opinion on ethical issues that may arise in the fight

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Box 1 In light of this debate, the WADA Ethics Panel formulated the following questions

1. Should WADA and/or other sponsors consider funding such geolocalisation research projects?
2. If successful, could they be proposed to athletes as a complementary device to Anti-Doping Administration and Management System to help geolocalisation and reduce the risk of missed tests?
3. Should such devices be offered on a voluntary basis, or is it conceivable that they would be made mandatory for all athletes in registered testing pools?

against doping in sport and to develop and/or recommend ethically sound policy or suggestions to WADA management. Views of the WADA Ethics Panel do not necessarily represent the official opinion of WADA management.

WHAT ARE THE CURRENT WHEREABOUTS REQUIREMENTS?

Whereabouts rules are part of the International Standard for Testing and Investigation (ISTI). The ISTI is mandatory for Anti-Doping Organizations (ADOs)–including International Sport Federations (IFs), National Anti-Doping Organizations (NADOs) and Major Games Organizers–that have adopted the World Anti-Doping Code (the document harmonising antidoping rules in all sports). Whereabouts information is provided by a limited number of top elite athletes to the IF or NADO that include them in their respective registered testing pool (RTP) as part of these top elite athletes' antidoping responsibilities.

The requirement for top-level athletes included in the RTP of either their IF or NADO is that they need to specify 1 hour each day (between 6:00 hours and 23:00 hours) during which they assure they can be located at a specified location for testing. If an ADO would have serious and specific suspicion that the athlete may be engaged in doping, the ISTI can also have athletes tested outside those hours. Therefore, athletes are also required to provide for each day during the following quarter the full address of the place where the athlete will be staying overnight.

Athletes can update their 60 min time slot and their whereabouts at any time. If they miss a test, they have the opportunity of providing a reason justifying their absence. If this excuse is accepted by the relevant antidoping organisation, then the missed test is not part of any record and does not count as one of three missed tests within 12 months that could give rise to a sanction by the relevant ADO. Full details on the whereabouts system can be found in part I.3. of the ISTI.

THE DEVELOPMENT OF LOCATION-BASED SERVICES

The use of technology that enables geolocalisation of individuals is growing rapidly and has become commonplace in our society. Indeed, GPS devices are commonly used for commercial, professional and personal use. Moreover, location-based services are integrated in most telecommunications and mobile computing platforms, such as smartphones and laptops. Users often reveal their location to third-party applications, without realising that information about their location will be used or kept after having used this service.[7]

WHAT ARE THE POTENTIAL ADVANTAGES OF GEOLOCALISATION FOR ATHLETES?

Some athletes have suggested that the use of GPS tracking in athletes' phones, the use of tracking bracelets or, even, implantable devices could be used to provide continuous information about their location and whereabouts.[8] In this way, some have argued that the likelihood of missing an out-of-competition test could be drastically diminished. Consider situations where athletes arrive late in the designated 60 min time slot due to heavy traffic or in situations where athletes don't have access to internet. As one athlete reported:

> I feel it is a lot of bother to keep track of the time… for instance, if you are on holiday and don't know what you would like to do the following day, you have a problem!! Especially if there is no access to the internet. It would be a relief to have access to some kind of gps/tracking device or something like that that you could take with you instead of reporting whereabouts.

[Quoted in 4] Moreover, some have argued that the administrative burdens of filling in and updating the whereabouts could be reduced.[4] In addition, it could provide antidoping officials with supplementary tools to locate the athletes and perform out-of-competition controls. Geolocalisation data could also help interpret better the data integrated in the Athlete Biological Passport (ABP). The ABP has been introduced to monitor selected variables (biomarkers) over time that indirectly reveal the effect of doping, as opposed to the traditional direct detection of doping by analytical doping controls. This includes, for example, haematocrit, haemoglobin and red cell counts. Although several factors are known to affect the results of these markers (such as age, gender, sport discipline or ethnic origin), altitude exposure is not taken into account in a standardised way in ABP.[9] As altitude is an important variable, it is important to integrate information about altitude in the calculation of ABP.[9 10] Localisation information about the athletes, and therefore altitude information, could inform the calculation of ABP values. Moreover, from a broader scientific perspective, the availability of this information has potential value, in understanding better the patterns and relationships between nature (genotype), nurture (phenotype) and exposure (environment), including geographical data.[11] It could, for example, provide a better understanding of the exact effect of altitude exposure on the normal increases of haemoglobin and haematocrit values.

WHAT ARE THE POTENTIAL CONCERNS OF GEOLOCALISATION OF ATHLETES?

Privacy and data security

The implementation of the whereabouts system has led to discussions about whether this system is an infringement of an athlete's right to privacy.[2] Athletes have a moral and legal right to privacy and, as such, this raises questions about when it would be appropriate for antidoping agencies to access information about athletes' whereabouts.[3] The principle of proportionality plays an important role in this evaluation, as whereabouts rules should pursue a legitimate aim (eg, antidoping) but should not interfere unnecessarily with an individual's rights and interests.[12] Despite existing critiques on the whereabouts system, the current approach is increasingly accepted as 'an imperfect, but still largely useful and moderately successful deterrent and detection system for otherwise virtually undetectable doping methods'.[13]

Subjecting athletes to reporting their whereabouts is already an exceptional measure that can only be legitimised by its aim (antidoping) and means (its voluntary character). With regard to the latter, athletes may withdraw from surveillance if they quit elite sport, they are aware of the sanctions and the system is transparent.[5]

The current whereabouts information of athletes is available through ADAMS to WADA and other ADOs with the authority

to test athletes. Only authorised persons can access this platform and use it exclusively for doping control purposes.[12] It can be argued that geolocalisation could fit in the current whereabouts framework. Indeed, location-based information could be restricted to authorised persons with the use of filters that would only give access to specific time frames (eg, not at night and only during the predetermined 60 min time slot). However, it should be considered that various athletes already perceive the current whereabouts system as privacy infringing and that adding geolocalisation would only increase this feeling. Moreover, according to one study, only a minority of athletes support such devices.[6]

In addition, from a data security perspective, the collection of ongoing location information from an identified individual should be considered highly sensitive data. This creates important considerations for the level of data storage and access. Data breaches would be highly problematic. The recent Fancy Bears data hacking shows that such concerns are certainly relevant. Athletes might fear that their data could be hacked, leading to a potentially negative impact on their career.[14] Moreover, concerns exist about software that allows editing existing data points and the creation of false location profiles.[15] Of course, there are already privacy risks in the current whereabouts system, and the degree to what extent geolocalisation could be considered intrusive would depend on the way and the amount of localisation data that is being collected.

Considering the above-mentioned concerns related to the use of such technologies, the likelihood of increased harm in the trust and reputation of antidoping agencies and WADA is bigger than the potential benefits from use of such technology. Even under a voluntary scheme in which athletes could opt in for using a location-tracking technology, potential abuse of such information is foreseeable. Athletes could be pressured directly or indirectly to use such technologies by employers, trainers or sponsors.

The use of geolocalisation has also wider societal ramifications. The use of surveillance in one context might also increase the use in other contexts. Of particular concern is a further use of location information of athletes by employers, trainers and sponsors and in the management of athletes. Although it might be of interest to monitor training schemes or activities, it would increase the degree of constant surveillance and monitoring of athletes and breach rights to privacy.[3] Also in these contexts, the potential advantages of such an approach should be balanced with attention to autonomy and privacy considerations, as well as considerations regarding further (inappropriate) use of such data.

Pragmatic considerations

In addition to the various concerns noted, various practical reasons undermine the capacity for location-based devices to replace the existing whereabouts systems. Indeed, in order to allow antidoping officials to plan antidoping controls outside competitions, athletes would still be required to submit their planned locations in ADAMS, as location-based devices only identify individuals at a given point in time and not in the future. Moreover, GPS tracking can provide inaccuracies in dense forests or between tall buildings or could be affected by other system failures.[15] Athletes could also forget, lose or break their tracking devices (accidentally or otherwise), which would present serious difficulties for strict liability on which antidoping policy exists.[16] Cheating athletes could give their phones or tracking devices to individuals in their environment. It questions also whether a 'disappearance' off the grid would potentially lead to a whereabouts failure. Therefore, the question is precisely what kind of benefit a location-based device could provide compared with calling an athlete on a cellphone in case the athlete cannot be found within the disclosed location during the 60 min time slot. Moreover, such a location-tracking device would not be able to replace any other witness in order to testify that an athlete was at a certain place, if such evidence was needed within the framework of an antidoping procedure. Yet, we would argue that the use of geolocalisation wouldn't resolve some of the administrative and pragmatic concerns related to the current antidoping procedures.

CONCLUSION

Through the widespread availability of location-identifying devices, geolocalisation could potentially be used to place athletes during out-of-competition testing. We conclude:

Should WADA and/or other sponsors consider funding such geolocalisation research projects?

The use of geolocalisation could be useful in a research setting with the goal of understanding associations between genotype, phenotype and environment. In particular, knowledge of the effect of altitude exposure on athletes would be useful. This should be possible within a controlled environment, in which a research proposal was developed and approved by an institutional review board or research ethics committees and in a situation where individuals are recruited through an informed consent process outside an antidoping context. Also in this context, privacy issues should be considered in the research protocol. However, such research projects should not be focused on developing tools to be used in a whereabouts system.

If successful, could they be proposed to athletes as a complementary device to ADAMS to help geolocalisation and reduce the risk of missed tests?

The use of geolocalisation as part of or as replacement of whereabouts rules is, however, burdened by significant ethical concerns. While benefits remain largely hypothetical and minimal, the potential invasion of privacy and the data security threats are real. Currently, it seems likely that the technology could result in more harm than benefit to athletes, the sport and the antidoping movement.

Should such devices be offered on a voluntary basis, or is it conceivable that they would be made mandatory for all athletes in RTPs?

Considering the impact on privacy, data security issues, the societal ramifications of offering such services and various other pragmatic considerations, the WADA Ethics Panel concludes that at this time, the use of geolocalisation is not justified. It should neither be mandated as a tool for disclosing whereabouts nor implemented on a voluntary basis.

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