

SWOT ANALYSIS OF ORGANIZATION OF ANTI-DOPING MEASURES IN THE CONTEXT OF MEDICAL AND BIOLOGICAL SUPPORT OF ATHLETES

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The anti-doping efforts on the part of medics should be constantly improved, which means the exploration and analysis of ways to increase the effectiveness of such efforts should be constant. SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is one of such ways. It investigates internal problems and resources of an organization and the influence of external factors. This study aimed to improve the anti-doping efforts based on the analysis of their strengths and weaknesses, taking into account external threats and directions of development. We have conducted an express SWOT analysis of anti-doping work in medical organizations of the Federal Medical Biological Agency of Russia and compiled a simple matrix. The factors under consideration are internal, which can be controlled, and external, which are often uncontrollable but should be accounted for. We identified the most significant factors influencing organization of this line of work, compiled the SWOT matrix that allows assessing the possible resources for intensifying the anti-doping work, determined its strengths and weaknesses, threats and opportunities imposed by the environment in this activity takes place in. The express SWOT analysis enabled evaluation of the factors that have the greatest impact on the organization of anti-doping work. Informational and educational programs, including workshops for medics and monitoring of their level of knowledge, can be the key line of activity in the context of such efforts.

Keywords: countering doping in sports, SWOT analysis, medical and biological support, training of athletes

Funding: the study received financial support under the State Assignment No. 67.001.21.800 issued by the Federal Medical Biological Agency of Russia

Author contribution: AA Derevoedov — study concept, selection and analysis of the published research reports, article authoring; AV Zholinsky — article editing, approval of the final version thereof; VS Feshchenko, IT Vykhodets — approval of the final version of the article; KA Stashchuk — selection and analysis of the published research reports; AA Pavlova — manuscript editing.

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Received: 24.11.2022 **Accepted:** 18.12.2022 **Published online:** 30.12.2022

DOI: 10.47183/mes.2022.048

SWOT-АНАЛИЗ ОРГАНИЗАЦИИ АНТИДОПИНГОВЫХ МЕРОПРИЯТИЙ ПРИ ПРОВЕДЕНИИ МЕДИКО-БИОЛОГИЧЕСКОГО ОБЕСПЕЧЕНИЯ СПОРТСМЕНОВ

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В связи с необходимостью совершенствования антидопинговой работы врачей требуется постоянный анализ и поиск путей повышения ее эффективности. Одним из таких направлений является SWOT-анализ (от англ. strengths, weaknesses, opportunities, threats), основанный на изучении внутренних проблем и ресурсов организации и влияния внешних факторов. Целью исследования было совершенствование антидопинговой работы на основе анализа сильных и слабых ее сторон с учетом внешних угроз и направлений развития. Проведен экспресс SWOT-анализ антидопинговой работы в медицинских организациях Федерального медико-биологического агентства России с составлением простой матрицы. Рассмотрены внутренние факторы, модификация которых возможна, а также внешние факторы, влияние на которые зачастую невозможно, но они должны быть приняты во внимание. Выделены наиболее значимые факторы, влияющие на организацию этого раздела работы, составлена матрица SWOT, позволяющая оценить возможные ресурсы активизации антидопинговой работы, ее сильные и слабые стороны, а также угрозы и возможности, выявленные в результате анализа среды, в которой осуществляется эта деятельность. Экспресс SWOT-анализ позволил оценить факторы, оказывающие наибольшее влияние на организацию антидопинговой работы. Основным направлением этой работы могут быть информационно-образовательные программы, включая проведение семинаров и контроль уровня знаний врачей.

Ключевые слова: противодействие допингу, спорт, SWOT-анализ, медико-биологическое обеспечение, подготовка спортсменов

Финансирование: исследование выполнено при финансовой поддержке Государственного задания Федерального медико-биологического агентства России № 67.001.21.800.

Вклад авторов: А. А. Деревоедов — концепция работы, сбор, анализ литературы, написание текста; А. В. Жолинский — редактирование, утверждение окончательного варианта статьи; В. С. Фещенко, И. Т. Выходец — утверждение окончательного варианта статьи; К. А. Стащук — сбор, анализ литературы; А. А. Павлова — редактирование рукописи.

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Статья получена: 24.11.2022 **Статья принята к печати:** 18.12.2022 **Опубликована онлайн:** 30.12.2022

DOI: 10.47183/mes.2022.048

In medical organizations operating under the Federal Medical Biological Agency (FMBA of Russia), the activities aimed at prevention of use of doping in sports (anti-doping activities) are a constant part of work performed on an ongoing basis, as prescribed by the regulations.

Since 2017, these activities have been structured with the aim of creating a system helping clinicians to prepare

Therapeutic Use Exemption (TUE) applications as the main component of anti-doping work. A number of regulatory documents were developed [1, 2], organizational events conducted, regular publication of reference, information and educational materials set up, and most importantly, from then on, clinicians can request and receive assistance at any stage of preparing the said TUE applications.

The effectiveness of anti-doping activities was constantly analyzed; a number of weaknesses therein were identified and eliminated, and some sections improved. The quality of the TUE application documents prepared by medics of FMBA's medical organizations was also controlled on a regular basis.

Whenever possible, the identified deficiencies were remedied immediately, for those that could not be addressed without delay there were developed remedial action suggestions. The risks of violations of anti-doping rules by an athlete or his/her supporting staff cannot be completely and permanently eliminated.

Seeking to further improve anti-doping work, we analyzed its strengths and weaknesses, external threats and directions of development, i.e., did a SWOT (strengths, weaknesses, opportunities, threats) analysis.

There are various approaches to the analysis of effectiveness of anti-doping measures taken by medical professionals. SWOT analysis is a universal matrix that allows not only listing the key resources of an organization and outside threats but also grouping them in an understandable way as the basis for continuous effective planning.

Division of external factors into those that can be predicted and addressed with organizational measures and those that are unpredictable allows identifying the main risks and ways to overcome or mitigate them.

In general, SWOT analysis is one of the components of a comprehensive approach to improving the counter-doping measures as practiced by medical professionals in sports; it enables assessment of the dynamics and evaluation of individual changes in this work.

This study aimed to evaluate various aspects of activities of an organization from the viewpoint of effectiveness of anti-doping measures in the context of biomedical support (BMS) of the Russian Federation national team athletes while factoring in internal resources, external threats and risks subject to constant monitoring and mitigation and ultimately seeking to improve the results of this work.

METHODS

SWOT is a list of an organization's strengths and weaknesses based on the examination of its resources, as well as a register of threats and opportunities identified through analysis of the environment it operates in [3]. Planning based on SWOT should build on strengths and existing opportunities, account for threats and overcome weaknesses (figure).

According to some researchers, SWOT analysis is one of the most popular strategy tools among managers [4].

The analysis may yield various SWOT matrices; its main purpose is to assess the current state of the company or important lines of its business and, based of this assessment, develop a strategy and an action plan aimed at improving work efficiency.

Applied in a broader sense, the SWOT method allows structuring a subject matter into a clear matrix that makes positive and negative sides easily seen from the first sight (instead of making a list of advantages and disadvantages) [5]. Strengths and weaknesses reflect whether an organization has internal resources needed to achieve the set goals (improved effectiveness of anti-doping activities, in this case) or not.

RESULTS

As prescribed by the SWOT analysis structure, we identified and analyzed the following aspects of anti-doping work.

Strengths (S) of organization and implementation of anti-doping measures in the context of BMS activities

In recent years, the patterns of anti-doping work as done by FMBA's medical specialists have changed significantly.

The strengths include, first of all, availability of highly professional personnel, organizational structure and documentary support of the anti-doping efforts:

Professional personnel

In a daily basis, medics rendering the BMS have to decide on prescribing substances, methods, dietary supplements while taking into account their anti-doping status. Most of them have the necessary experience and motivation for further improvement.

The developed programs of postgraduate education and programs designed for doctors of national teams

Recently, sections of the postgraduate programs covering the anti-doping issues have been updated. A special program for doctors of national teams was designed to help them in organizing the main sections of anti-doping work.

Availability of anti-doping regulatory documents by the Ministry of Health of Russia, FMBA of Russia and the Federal Research and Clinical Center of Sports Medicine and Rehabilitation

Since 2018, the main documents that regulate medical assistance to athletes of various levels (released by the Ministry of Health of Russia) have been updated. The entire system of anti-doping activities in medical organizations under the FMBA was structured by orders issued by the FMBA and the Federal Research and Clinical Center of Sports Medicine and Rehabilitation [1, 2].

Allocation of responsibility for anti-doping efforts in the FMBA's medical organizations

The order #49 of April 05, 2016 by FMBA of Russia prescribes selection of persons responsible for anti-doping activities in a medical organization, outlines their rights and obligations and states the procedure of interaction with other participants of the process [6].

Organization and development of a system designed to assist medics in their anti-doping efforts and, as part of that system, active interaction between a medic professional as a person responsible for counter-doping activities in a medical organization (a physician in a Russian national team) and a specialist in anti-doping measures from the Federal Research and Clinical Center of Sports Medicine and Rehabilitation under FMBA of Russia.

Constant updating of the information on anti-doping issues as relevant to medical professionals (comments to the Prohibited List [7], Permitted List [8], translations of articles covering anti-doping matters).

Two key documents to help medics have been published since 2018, Comments to the Prohibited List and Permitted List. In addition, on a regular basis, medical professionals receive translated articles and materials published to the websites of anti-doping organizations and medical journals.

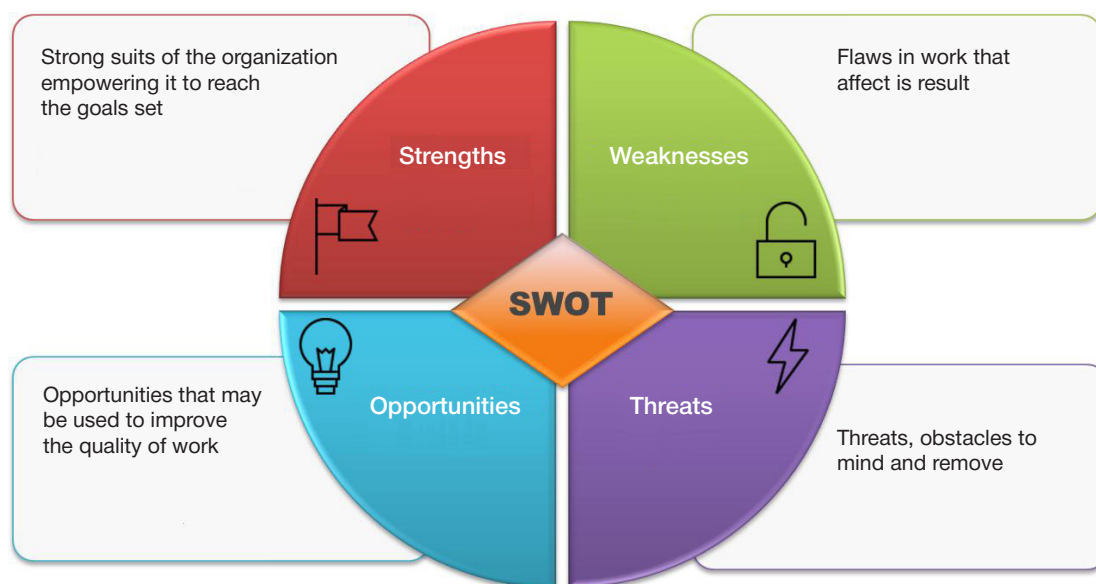


Fig. Key components investigated as part of the SWOT analysis

Weaknesses (W)

As a rule, weaknesses reflect problems and shortcomings in the ways of work the organization has adopted, and largely shape the options of their improvement. This section can be conditionally divided into main blocks: outdated documentation, personnel problems, behavioral (psychological) problems. Currently, it is possible to single out a number of weaknesses in anti-doping work.

Outdated regulatory documentation

A number of regulatory documents should be revised because they were put in force over 5 years ago and the governing anti-doping documentation is amended almost every year [6]. Not all of the amendments require modification of the regulatory documents, but some of them must be accounted for in the work organization process.

Lack of an anti-doping section in the Federal State Medical Informational and Analytical System

Anti-doping work was not factored into the Medical Informational and Analytical System enabling functioning and keeping of the electronic register of health status of the Russian national team athletes (MIAS) when it was developed. Systematization of the respective information in the database could significantly support organization of the efforts aimed at countering doping in sports. There were developed amendment and modification suggestions for the Sports Medicine Physician services part of the MIAS.

Lack of information about TU in outpatient records

Standard medical papers contain no sections related to the anti-doping activities. In particular, they include no records about TU applications. Therefore, any analysis of the said papers does not allow assessing quality of the anti-doping work.

Personnel

1) *staff turnover (doctors). As a rule, medical professionals starting in sports medicine, although experienced in other areas*

of medicine, have not previously dealt with doping problems in general and TU in particular. The situation calls for appropriate educational activities with subsequent control of the knowledge acquired;

2) *graduates without experience and basic knowledge entering the field.* This point is similar to the one above, although young doctors have a chance to learn at the continued education cycles covering anti-doping measures (developed for various medical specialties). In any case, young specialists have no experience of such work;

3) *long trips with the national teams that prevent the involved medics from continuing their education.* Doctors of the national teams can spend most of the year at training camps, which disallows their participation in educational and knowledge control activities. This raises the importance of printed and electronic materials on anti-doping topics, on the one hand, and the capabilities enabling remote consultations on the other hand;

4) *doctors do not track the outcomes of applications they helped prepare.* Following up on applications to the final decisions by the anti-doping agency is an important resource for improvement of the anti-doping work done by medical professionals and the respective educational activities.

Psychological problems

Often, medics perceive doping and the related issues as something secondary, optional, interfering with their main work. The list of problems of this kind includes the following points:

1) *lack of interest on the part of doctors in learning more about the anti-doping measures, coupled with superficial attitude towards this subject.* A doctor starts looking for the relevant information and thus acquire new knowledge only when the matter at hand concerns him/her directly. This approach can translate into unprofessional decisions and increases the risk of possible sanctions from anti-doping agencies;

2) *lack of understanding on the part of healthcare professionals of the risks associated with the possible violations of anti-doping rules.* Poor awareness leads to underestimation of risks (sometimes, on the contrary, to a panic-driven avoidance of the problem), which may also be associated with inaptitude and unwillingness to use reference programs, with the habit of asking colleagues and coaches and not seeking answers in

Table. The SWOT analysis matrix

	Useful factors (S-O)	Threatening factors (W-T)
Internal factors (S-W)	Strengths <ul style="list-style-type: none"> – Professional personnel – Programs of postgraduate education and programs designed for doctors of national teams – Availability of anti-doping regulatory documents by the Ministry of Health of Russia, FMBA of Russia and the Federal Research and – Clinical Center of Sports Medicine and Rehabilitation – The system of assistance to physicians in anti-doping matters – Current anti-doping information for physicians¹ 	Weaknesses <ul style="list-style-type: none"> – Staff turnover (doctors). – The doctors are not interested in learning more about the anti-doping measures, coupled with superficial attitude towards this subject. – Outdated individual regulations – Lack of information about TU in medical records and MIAS – Popularization of DS
External factors (O-T)	Opportunities <ul style="list-style-type: none"> – Constant monitoring of updates of documents made by anti-doping organizations – Introduction of amendments to the current regulatory documents – Improvement of educational programs for doctors – Introduction of amendments to the MIAS and outpatient card to incorporate the sports-related anti-doping efforts – Implementation of a system to control the anti-doping knowledge of doctors on a regular basis 	Threats <ul style="list-style-type: none"> – Regular, not always announced changes in the documents released by anti-doping organizations – Reliance on European standards by anti-doping organizations developing materials for the physicians – Progressive accusatory bias in anti-doping legislation – Anti-doping organizations are not interested in cooperation – Risks associated with falsification of DS

documents or with persons responsible for countering doping in a medical organization. The situation is continually improving, more and more doctors realize the need for deeper knowledge of anti-doping matters, but the risks remain;

3) *the established opinion that the athlete is responsible for everything*. The recent anti-doping documents and new/updated Russian laws have made the doctor's responsibility for doping rule violations significantly more expanded, yet it is still a prevailing point of view that the responsibility for all violations lies solely with the athlete;

4) *unrestrained interest in dietary supplements (DS)*. Some medical professionals have developed a dependence on fashionable, advertised and widely used, but far from always effective dietary supplements. The risks associated with poor control over their composition and possible falsification of such products are not taken into account;

5) *poor command of English on the part of the doctors*. This is a serious problem that limits the ability to work with professional publications most often released in English. The problem is not only psychological but also structural, and it requires a solution at the level of educational institutions.

Opportunities (O)

Opportunities reflect the dynamics of external factors and the effect they have on the organization of work. In some cases, opportunities can turn into threats and vice versa, depending on the situation and the availability of resources needed to use or counter them.

The two components that are affected by external factors as pertains the process of improvement of anti-doping activities are the documents adopted by anti-doping organizations or federal executive bodies and the status of medical professionals, specifically, their knowledge and skills they have acquired while learning and working.

Improvement of educational programs for doctors

Effective and regularly organized anti-doping education is the key prerequisite to prevention of violations of anti-doping rules and the main resource enabling anti-doping efforts in medical organizations. Implementation of the respective educational programs allows doctors to stay up-to-date with their knowledge, receive the necessary recommendations and materials covering the key areas of anti-doping work. This point was placed among the external factors because the

documents regulating educational activities and the content of such programs are approved outside the professional community and require quick and effective adaptation.

Introduction of amendments to the regulatory documents

Regular revisions of the main documents of anti-doping organizations (the Russian National Anti-Doping Rules, the Code of the World Anti-Doping Agency (WADA), the Prohibited List and other WADA international standards) require prompt introduction of amendments to the existing departmental documents.

Introduction of amendments to the MIAS and outpatient card to incorporate the sports-related anti-doping efforts

From the point of view of training, analysis of errors and medical care provision continuity, the introduction of these amendments is one of the key tasks. Solving it would also mean automation of registration of TU applications and their analysis by various parameters.

Implementation of a system to control the anti-doping knowledge of doctors on a regular basis

This approach is a continuation and a mandatory integral part of the educational process.

Threats (T)

The concept of threats in this case is a rather arbitrary one, since in some cases, with the right approach, they can also be a resource used in development of the organization.

This section includes the threats that cannot be mitigated on the level of medical practice and thus require actions influencing organization of work.

Regular changes in the documents of anti-doping organizations that should be incorporated into the regulations governing operations of the medical personnel

The frequency of introduction of amendments into the documents released by anti-doping organizations differs: the WADA Code is reviewed every 5 years, the Prohibited List — at least once a year, International Standards are amended, as a rule, once every 5 years (can be done more often), the

WADA guidelines and other advisory documents are changed regularly, and the changes often remain unannounced. It is necessary to monitor the anti-doping documents on a regular basis to prevent missing significant changes thereof.

Progressive accusatory bias in anti-doping legislation

As experience shows, each subsequent edition of the WADA Code has expanded list of anti-doping rule violations, and the sanctions against athlete's support personnel grow more and more strict. This is also true about internal Russian regulatory documents. Recently, the Criminal Code and the Code of Administrative Offenses have been supplemented with the relevant articles, and already there are cases of their real-life application.

In the case of anti-doping organizations, their desire to make the penalties more severe, including those applied to the athlete's support staff, does not correlate with the wish to increase the effectiveness of the main anti-doping tool, i.e., laboratory tests that return positive as a result of compilation of an effective test distribution plan.

Reliance on European standards by anti-doping organizations developing materials for doctors, the resulting presence of diseases and conditions there that are neither diagnosed nor treated in the Russian Federation or diagnosed and treated extremely rarely

The TUE Physician Guidelines developed by WADA [9] provide models of best practices that do not always coincide with the requirements of the Clinical Guidelines of the Russian Ministry of Health. Often, substances and methods from the Prohibited List are used to treat diseases that are not covered in the TUE Physician Guidelines. In such cases, the doctor must follow the national regulations and attach extracts therefrom to the TUE applications. These are some of the significant risks that require attention and competence from the doctor.

The WADA's TUE Physician Guidelines includes 18 diseases and conditions, some of which are practically not applied in the Russian clinical practice. Such diseases and conditions are ADHD, congenital sleep disorders, transgender athletes, neuropathic pain. Treatment of some of them involves substances prohibited in the Russian Federation, which must be taken into account when conducting therapy.

Discrepancies between Clinical Guidelines of the Russian Ministry of Health and the TUE Physician Guidelines

For example, according to the Clinical Guidelines by the Ministry of Health of Russia, the diagnostic sign of diabetes mellitus is the fasting glucose level of over 6.1 mmol/l [10]. According to the European criteria, the minimum level is 7 mmol/l [11]. There may be more discrepancies of this type in the regulations, but finding them would require a detailed analysis of the documents.

Secrecy in the work of anti-doping organizations

As a rule, anti-doping organizations do not employ medical professionals with practical experience, which affects the quality of the advisory services they provide. Doctors are not allowed to attend the TU conferences held annually by WADA and its structures, and information on the issues discussed is not readily available. Thus, the risks are growing up and the effectiveness of implementation of the results of such discussion (and decisions taken) grows down.

The SWOT matrix

There are several ways to summarize the results of a SWOT analysis. The most common approach is to create a so-called matrix, which allows bringing all sections of the SWOT analysis into a table that groups the key features by the selected criteria.

To form the matrix, we selected the approach that highlights useful and threatening factors and accounts for them being external or internal [4]. The most significant factors in each group were selected for the analysis.

According to the table, the organization has all the necessary resources to remedy the shortcomings (weaknesses) and mitigate the possible threats. Such resources include, first of all, active informational and educational work, as well as constant monitoring of changes in the documents released by the anti-doping organizations.

DISCUSSION

The main directions of a SWOT analysis applied to a medical organizations include investigation of its activities in general, analysis of the effectiveness of implementation of various preventive programs among different groups of population, introduction of various diagnostic and treatment methods, use of drugs etc. [3]. The available literature offers no information on application of a SWOT analysis to assess the effectiveness and planning of anti-doping activities in sport.

The anti-doping work of medical professionals, as an integral part of the BMS, is a small section thereof. At the same time, this work is important because of the urgency attached to it and the possible negative consequences associated with the risks of violations of anti-doping rules.

A key task, as it seems, is to bring the relevant sections of the MIAS and outpatient records in line with the anti-doping measures taken. The emergence of a digital component of anti-doping work can bring it to a new level with the possibility of analyzing documents and developing educational programs based thereon.

Essentially, amending the current regulatory documents is a technical task that also requires monitoring of changes introduced to the relevant documents by anti-doping organizations [1, 2, 6].

It is necessary to provide doctors with information when TUE Physicians Guidelines do not cover the case at hand and it is necessary to follow the Clinical Guidelines by the Ministry of Health of Russia. Some reference materials may have to be published, although this task is hampered by the constant changes in the documents by anti-doping organizations.

A number of threats (risks) cannot be compensated, eliminated or predicted. One of them is the desire of all parties involved in the anti-doping process to expand the responsibility of the medical personnel. Only once the regulatory documents are available will it be possible to understand the goals, the mechanism, and the risks themselves.

This approach, in fact, transfers the blame from ineffective doping control to specialists providing professional assistance to the athlete. A physician under constant pressure and control tries to avoid prescribing prohibited substances even when they should be prescribed, which can affect the efficacy of medical care. This is one possible reason for the relatively low number of TUEs that athletes apply for but that are usually initiated by a physician.

CONCLUSIONS

The analysis conducted as part of this study confirms the expediency of selection of the key anti-doping work improvement

directions, the first of which is the effective assistance to physicians in preparing TUE applications and development of information and

educational programs and materials that factor in the changes made to the WADA documents and Russian regulations.

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